DOCUMENT RESUME

ED 096 916 HE 005 944

AUTHOR	Leslie, Larry L.
TITLE	Innovative Programs in Education for the Professions.
INSTITUTION	Pennsylvania State Univ., University Park. Center for the Study of Higher Education.
PUB DATE	Jun 74
NOTE	242p.
EDRS PRICE	MF-$0.75 HC-$11.40 PLUS POSTAGE
DESCRIPTORS	*Educational Innovation; Engineering Education; *Higher Education; Law Instruction; *Medical Education; *Professional Education; *Program Descriptions; Teacher Education

ABSTRACT

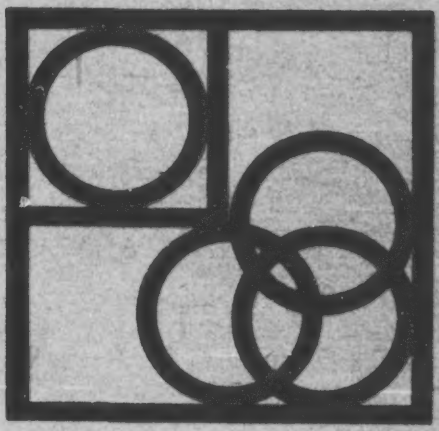
This document describes innovative programs in education for various professions including law, health services, social work, teaching, agriculture-related professions, architecture, business, and engineering. Programs of health services are further divided into those for physicians, physician assistants, nurses, and dentists. Information is provided concerning program title, location, sponsors, funding, size, contact personnel, objectives, and program description. A framework for examining professional education programs is also included. (MJM)

Innovative Programs in Education for the Professions

Larry L. Leslie

BEST COPY AVAILABLE

U.S. DEPARTMENT OF HEALTH EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION



Center for the Study of Higher Education

The Pennsylvania State University

HE005944

ED 096916

Innovative Programs in Education for the Professions

Larry L. Leslie

Center for the Study of
Higher Education

The Pennsylvania State University
University Park, Pennsylvania 16802

June 1974

Contents

Preface 4

Introduction: Challenges to Education for the Professions: A Framework for Examining Programs of Professional Education 7

Part I
The Group I Professions 19

1/ Law 20

2/ Health Services 31
Programs for Physicians 35
Programs for Physician Assistants 65
Programs for Nurses 81
Programs for Dentists 94

3/ Social Work 119

4/ Teaching 138

Part II
The Group II Professions 157

5/ Agriculture-related Professions 158

6/ Architecture 172

7/ Business 208

8/ Engineering 217

Summary and Conclusions 234

Additional References 239

Preface

I was brought to Penn State primarily to study education for the professions. The idea to launch such a research effort into the professional fields belongs to G. Lester Anderson, Director of the University's Center for the Study of Higher Education. Dr. Anderson contended that this area was grossly underexamined.

In 1962, Dr. Anderson took primary responsibility for putting together the 62nd Yearbook of the National Society for the Study of Education, a yearbook entitled *Education for the Professions*. That experience confirmed what he already strongly suspected: few people had concerned themselves with the general process of education for the professions. They had considered the study of professional education to be the sum total of investigations into education for the separate professions. They largely had declined to recognize any commonalities among the professions, any lessons the professions could learn from each other. Each profession held that it was unique. Each believed it was so intricate that generalizations could not be made from it to any other profession, or even moreso, that generalizations could not be made from other professions to it.

Anderson and a very few like him held that the differences among professionals of the various fields could largely be explained on the basis of the insider-outsider principle. Those very close to a field, the professionals of that field, tended to see only dissimilarities; those such as himself, persons responsible for working with a number of professions in such organizations as universities, tended to focus on the congruencies. Only a few individuals, most of whom were or had been university academic vice-presidents and presidents, had gained a broader perspective of the several professions as they attempted to lead, coordinate, communicate with, and in general administer the professional schools of their universities. Among the more noteworthy contributors to this broader perspective of the professions were William McGlothlin, T. R. McConnell, Lewis Mayhew, and Anderson himself.

All of this is only to provide a backdrop and an acknowledgement for how and why this monograph was written. When I arrived at Penn State, I immediately set out to define some important and researchable questions about the professions. My priority was to identify topics that might "make a difference," those that might capture the attention of that vast majority of professional educators who believed that generalizations could not be made across professions.

Identifying an initial topic was far more difficult than I had imagined it to be. Indeed, as I searched for that topic I wondered if the critics had not been right after all. But an answer finally did come, and it was a rather simple process that led me to it. I finally asked what the crucial issues facing the professions were. Were they, as previous writers had implied, whether professional education should precede or follow general education, whether internships should be shortened or lengthened, whether the number of liberal arts electives should be increased or decreased? I decided to look in the professional journals to find an answer. As it turned out, the answer had been directly before me all the time in the form of numerous newspaper articles and news commentaries.

The crucial issues facing the professions dealt with — and still do — how the professions are responding to the rising expectations of society for professional services: how the medical profession will provide health care for the central cities and for the rural areas at a price all can afford; how the legal profession will cope with demands for no-fault insurance and quality legal services for the poor in civil and criminal cases; how the teaching profession will educate satisfactorily the disadvantaged as well as the advantaged; how the technological and business professions will give serious attention to environmental issues and attempt to meet the demands of consumer protection groups; and so forth.

These are clearly the burning issues of the day vis-à-vis the professions. But if the reader can quickly spot a straightforward researchable question there, he or she is more perceptive than I. Only after a long and painstaking process did research questions and a research strategy develop. This monograph reports on Phase I of the research project.

It is beyond the purpose of this monograph to describe in any detail the complete project, but a brief overview should aid in understanding the presumed importance of this collection of exemplary professional education programs. Simply stated, the project set out to identify means by which professional schools could respond to the urgent and rising demands of society. It was assumed that awareness of successful efforts to prepare young professionals who would serve pressing social needs, would lead many professional school leaders to duplicate programs elsewhere. Thus, Phase I set out to identify and describe those exemplary professional school programs currently underway. Phase II would assess successes and failures and would attempt to identify the responsible program components. Phase III would construct program models that could be expected to lead to satisfaction of program goals. This effort signals completion of Phase I; Phase II has not yet begun.

In closing, I wish to express my appreciation to several graduate assistants: Jon Fife, Alan Sturtz, David Watkin, and Carol Carberry, each of whom devoted considerable time and effort to this project; but I would especially like to thank Linda Smutz and Howard F. Miller, Jr., whose hard work was instrumental in bringing the project to fruition. My thanks are also expressed to Janet Zettle and Kathy Bell who performed large secretarial tasks and to Janet Bacon for her editorial services.

L.L.L.
University Park, Pa.
Fall 1973

Introduction/ Challenges to Education for the Professions: A Framework for Examining Professional Education Programs*

It is commonly accepted in sociological literature that social institutions arise and persist for the purpose of meeting individual and social needs. Outside the major social institutions (familial, economic, political) these social systems survive or perish to the extent that they can remain relevant to the collectivities they serve. Collective and social needs change, in other words, and social institutions must change as well if they are to survive.

The tremendous growth of American higher education in recent decades can be explained largely as a response to the need for researchers and technicians trained to achieve the rapid transition of the United States into a modern industrial state. Similarly, the various components of colleges and universities individually reflect societal changes and pressures for change. Our interest here is in the pressures for change being felt by one of the major components of higher education — professional education — a component which has developed to the extent that as long as ten years ago about 60 percent of all degrees granted in American colleges and universities were in professional fields.[1]

The purpose of this chapter is to discuss some of contemporary society's more urgent demands on and expectations of the professions in order to set a stage for viewing the professional school programs later catalogued in this volume. This chapter will present a paradigm through which the societal demands and expectations can be categorized and examined for what they portend for the professions.

Most of the demands upon the professions are straightforward requirements for professional services, and for the most part professionals provide these services in a satisfactory manner. However, in a small proportion of cases, the needs and expectations of society do not mesh perfectly with the capabilities or desires of professional workers. Many of these areas in which society and the professions are at odds develop as society changes. The rising expectations of society, so much talked about today, are the source of many current difficulties.

[1]G. Lester Anderson, "Professional Education: Present Status and Continuing Problems," *Education for the Professions*, NSSE 61st Yearbook, ed. Nelson B. Henry (Chicago: University of Chicago Press, 1962).

Contemporary newspapers and popular magazines are saturated with news and commentaries on urgent social problems. There is a great deal of concern about the largely inferior education being received by disadvantaged children; about the chaotic state of our welfare system; about the pollution of our air, water, and land; about the exploitation of our natural resources; about the altering of the ecological balance of nature through the use of insecticides; about the killing of tens of thousands of persons through automobile accidents; about the shortage of physicians, especially general practitioners, and the high costs of medical service; and about the jamming of court dockets that prolongs civil and criminal cases by from eighteen months to three years.

The striking consistency of such news items is that in almost every case some profession is centrally involved. This suggests not only the focus for viewing these societal needs, but also implies a focus for their resolution. For such a resolution a paradigm is useful.

THE PARADIGM

We may sort societal problems as they relate to the professions into three inclusive categories: (1) the *supply* of professionals, i.e., are there too many or too few professionals?; (2) the *mode* of professional services, i.e., what basically does the professional do? and (3) the *delivery system* of the profession, i.e., through what means does the profession deliver its service? Running throughout each of these are the professional's specific values, attitudes, and behaviors — dispositions that may impede the accommodation of changing societal needs.

The paradigm presents a synthesis of societal needs and expectations as related to eight major professions and the juxtaposed categories. As one may note, the first and most straightforward of these categories concerns professional supply. Some professions are experiencing undersupply, some are experiencing oversupply; in some cases the supply varies by subfield of the profession.

The professional's mode of service is generally obvious. The *primary* mode of professional service for law is defending the accused or resolving conflict. The *primary* focus of professional services for medicine is healing the sick; for social work it is ministering to the needy; and for teaching it is educating the easily educable.[2]

[2]It is clearly recognized that these professions spend considerable time in preventive efforts. Nevertheless, the dominant mode of service and the dominant model of professional education is action *after* a troublesome condition has occurred. Further, the majority of time spent by most professionals is not in condition prevention, nor does status within the professions lie within preventive subfields. Finally, and perhaps most significantly, the public perception of the service mode of these professions is condition treatment rather than prevention.

PARADIGM

A Framework for Examining Sources of Societal Problems or Needs as Related to Eight Professions

	Professional Area	*Quantity*	*Mode of Professional Services*	*Professional Delivery System*	*Results (including by-products)*
Group I *Professions Serving Society* **Directly** *Treatment of a Condition*	Law	Project oversupplies	Defend the accused or resolve conflict	Court system	Drawn out legal proceedings with no guarantee of a speedy trial; public jeopardy from criminals; high insurance costs; equal treatment of the poor denied.
	Medicine	Undersupply	Heal the sick	Hospital, clinic, medical center, private office	Few physicians in rural areas; shortages in central cities; shortages of family physicians; high costs; unavailability to many of the poor.
	Social work	Undersupply	Minister to the needy	Government agency	Client dependence; dramatically higher costs; jeopardy of our social institutions — the family, the work ethic.
	Teaching	Oversupply	Educate the easily educable	Neighborhood school	Inferior education for the disadvantaged resulting in lifelong inequality for jobs; segregation; tradition-bound education for all.
Group II *Professions Serving Society* **Indirectly** *Production of Goods and Services*	Agriculture	Undersupply	Provide goods or services	Business & government agencies	Insecticide damage to the ecosystem; destruction of forest resources; damage to leisure life; insufficient recreation areas.
	Architecture	Assessments vary	Provide services	Business or industrial agencies	Loss of aesthetics.
	Business	Varies by subfield	Provide goods or services	Business or industrial agencies	Environmental damage; consumer exploitation.
	Engineering	Varies by subfield	Provide goods or services	Business or industrial agencies	Environmental damage.

How these service modes relate to societal stresses will become clear later. It should be noted here, however, that law, medicine, social work, and teaching are professions serving society (clients) in a direct fashion. These are referred to in the paradigm as Group I professions.

Group II professions, as noted in the paradigm, serve society indirectly. These professions (agriculture[3], architecture, business, and engineering) serve clients indirectly because their mode of professional service focuses on the production of goods and services for business, with business being the intermediary between the professional and the ultimate client, the consumer of the goods or services.

The paradigm also defines the professional delivery system. In law, for example, it is the court system; in medicine it is the hospital, clinic, medical center, and private office. For social work the primary professional delivery system is the agency, and for teaching it is the neighborhood school. For Group II professions, the primary professional delivery system for "agriculture" is government and business; and for architecture, business, and engineering, the primary delivery system is the business organization. Numerous specific societal problems fall under the delivery systems umbrella.

The three categories (supply, mode, and delivery system) were constituted to examine systematically the relationship of society and the societal problems to the professions, because these three elements appear to hold keys to the needed modifications among the several professions in meeting changing societal needs and expectations. The reader will find it convenient to follow the remaining discussion by referring to the paradigm.

Supply of Professionals

All professions periodically have some serious concern with professional supply, be it oversupply or undersupply. Many have been faced with continuing and usually serious shortages (doctors, nurses, dentists, social workers, conservation related agricultural occupations, accountants and related business specialties, landscape architects, and most types of engineers). In law some would say that the problem is not finding sufficient numbers to continue present tasks, but finding the professionals required to expand legal services to all who are in need.

[3]The focus here is not chiefly on traditional agricultural production occupations, but on the several professions normally subsumed under the umbrella of a "college of agriculture." Examples would be forestry, parks management, and various specialties having to do with such services as pesticides and food packaging.

In several other occupations (e.g., most kinds of teachers, aerospace engineers, scientists, and mathematicians), however, the present concern is with an oversupply rather than an undersupply.[4]

In many professions (e.g., medicine, nursing, social work) supplies of workers may be the most pressing social need. Indeed, shortages of nurses and physicians may be the most serious issue related to the health professions. That many of the poor and geographically remote are without medical service is probably more serious than the particular nature of the service that is provided. Whether the cause for shortages has been an effort by professional school faculties to keep enrollments limited, a lack of vigorous recruiting, a lack of sufficient pecuniary rewards for graduates (as may be the case in social work and nursing), insufficient resources for expanded professional school faculty and facilities, or the increasing demand for professional services due to the rapid growth of society's ability to pay, the professional schools bear a heavy responsibility for providing professionals in sufficient numbers. As such, supply may turn out to be a profession's major preoccupation, leaving few resources available for other reforms.

Mode of Professional Service

The mode of service for the professions can be sorted into two general categories: treatment of a condition (the upper half of the paradigm, referred to as Group I professions) and production of goods or services (the bottom half of the paradigm, referred to as Group II professions). In the former case, society (clients) receives a direct service, while in the latter case an intermediate client (an employer, usually) intervenes before the ultimate client (society) receives the goods or services.

Although there is general merit in the simplification of service modes represented by the paradigm, an additional word of caution is necessary. Whereas it is true that the Group I professions have projected an image of being concerned *largely* with treating manifest conditions, they also have been involved in condition prevention. For example, much of the attorney's time has been devoted to such preventive functions as family counseling, estate advising, and tax consulting. Similarly, the medical profession has devoted much attention to medical research and public health. The point emphasized here, however, is that the *dominant* mode has been as shown in the paradigm. Therefore, the need has been for some redressing of balance in modes to

[4]"Where Will the Jobs Be in the Next 10 Years," *U.S. News and World Report* 69 (November 2, 1970): 73-74.

meet the demands and changing needs of society. For example, medical care in this country is coming to be a right rather than a privilege. As such, medical care must be extended to all, but at a cost that society can bear. Thus it may become necessary to streamline delivery systems and to place a greater emphasis upon preventive measures thus decreasing the incidence of more serious and costly diseases, trauma, and other conditions. Otherwise, the cost may be even too high for the national treasury.

The nature of the two general service modes (condition treatment [Group I] and production of goods and services [Group II]) may lead to certain difficulties. First, by emphasizing the treatment of conditions, prevention of conditons may be overlooked. That is, by emphasis upon healing the sick and injured, the well may become ill or injured. By focusing upon the accused, sources of criminal behavior and causes of civil litigation may be ignored. By responding only to the manifest conditions of the needy, dependence may be increased rather than reduced. By emphasizing the education of those who are easily educated, many broader social conditions may be worsened.

The Group II professions respond only secondarily to society; their primary commitment is to their employers. As such, if the employer's goals run contrary to the goals of society — a condition that may often be the case — the general public welfare may suffer. But there is no absolute reason why this must be so. Commitments can be made to society as well as to employers. In fact, one of the essential characteristics of a profession is that it have the best interest of society at heart. As Howard Becker has maintained in discussing the criteria for professional membership, the client "rests comfortable on the knowledge that this is one relationship (professional-client) in which the rule of the market place does not apply."[5]

Professional Delivery System

The *raison d'etre* of business, the "delivery system" of four of these professions, is to return a profit on the goods or services provided by professional employees. But there is no inherent reason why professionals cannot faithfully perform their services at a profit to employers and still be protective of the public welfare.

The delivery systems of the legal, medical, social work, and teaching professions are directly related to both the service mode and societal needs and expectations. It is often alleged that the legally accused are

[5]Howard S. Becker, "The Nature of a Profession," *Education for the Professions*, ed. Henry.

defended in the courts on the general basis of their ability to pay. To be sure, the criminally accused can be appointed legal counsel; but it is widely held that the quality of the defense is related to the client's ability to pay. Further, free counsel in noncriminal cases is not yet widespread. Severe strains upon the entire court system are a cause for equally great concern. The accused wait long periods in prison or are freed at the public peril while awaiting trial (notwithstanding the 1970 District of Columbia crime bill). Civil suits often take years to reach the courts. The chief villain is often identified as the contingency fee system which encourages lawyers to seek and nurture civil complaints.

The medical delivery system is largely a function of the model of medical education. The persistent form for the dispensing of medical services is condition treatment in the doctor's office where a nurse, technician, and receptionist may be in attendance; but the health team's *modus operandi* is disease treatment, not prevention. Although the number of health clinics has increased slightly, the unit of service mode — disease treatment — has not changed significantly.

Thus the delivery system of the major professions has, at least until recently, remained largely unchanged. Doctors, by and large, have not established practices among the poor, nor have clinics been built for easy access to the poor even though their health conditions are such that preventive medicine has been by far their greatest need — not the treatment of conditions to which the model of medical education has been directed. Finally, the cost of medical service has become so great as to tend to exclude large groups from the available form of medicine. And yet the solution is obviously not so simple as making health care professionals "socially concerned." The model of medical education and the system of delivery mitigate against initiatives for reform. But if the medical model were to become disease prevention or a more reasoned combination of prevention and treatment, the delivery system would necessarily change as would the observable social responsiveness of the health worker.

Social workers deliver their services through an agency system which is at the same time both a facilitator and an inhibitor. Without the governmental bureaucracy buffering the agency from the brunt of public criticism, the welfare system might lose much of its effectiveness. However, public welfare agency regulations curb caseworker efforts to act as client advocates and to provide means for eliminating dependency. The same is essentially true of private agencies.

The neighborhood school with "egg-crate" classrooms and a system of "musical chairs," whereby students may rotate from one teacher-dominated classroom to another, is the delivery system for public education. The neighborhood school concept has successfully preserved *de facto* segregation for decades and the stereotyped classroom

has done much to prevent an educational renaissance for a good deal longer.

SUMMARY, DISCUSSION, AND IMPLICATIONS

The first section of this chapter briefly discussed contemporary society's demands, needs, and expectations vis-à-vis those social problems within the province of eight major professions. The second section described a means through which the relations of these professions to social problems could be examined systematically. In summary of these two sections, it appears that the net effects upon society have been considerable exclusion of clients from professional services in the medical and legal fields, and jeopardization of society in all of the Group II professions. Undersupplies of professional workers, nonpreventive modes of service, and outmoded delivery systems have increased the costs of and reduced the availability of many professional services. In other cases clients have suffered ill effects from dysfunctional service modes and delivery systems — to wit, the welfare and educational systems.

For those professions having society only as an indirect client (Group II professions), employers have dictated the priorities. By-products from the manufacture of goods have accumulated to the point that serious damage to the environment has become inevitable. Pesticides from agriculture; water, air, and land pollution from business and indirectly from engineering; and visual pollution from architecture are causes for societal concern.

The relevant question to be discussed further at this point and later in the program summaries of subsequent chapters is, through what means can professions adjust to social demands and problems? Surely, the professions are generally aware of emerging societal needs and expectations. But are reforms underway? If so, where?

This line of inquiry leads us to why this paper focuses on the professional schools. The reasons are several and complex, but all are rooted in how professionals come to build their points of view, *views that seem to inhibit professionals from meeting changing societal needs and demands.*

Logic would suggest that values held by members of a profession have a common origin, if it may be assumed that there are, in fact, common professional dispositions within professions.[6] Since the first truly common experience of professionals is their professional education, it might be reasoned that similar values are inculcated either in that process or in some other common posteducational experiences with clients and with other professionals, e.g., in professional associations and in daily interactions. An alternate explanation is that profes-

sionals are recruited from discrete pools of behavioral typologies; that is, individuals with certain personality characteristics are somehow likely to enter a given profession, or at least the inclination to do so is very strong. Existing research indicates a combination of these forces; students admitted to a professional program do have similarities, professional education does affect patterned behavioral and attitudinal changes, and professional practice does influence the direction of these changes.

Although all three factors clearly influence the values, attitudes, and behaviors of professionals, it appears that the strategic locus for effecting change is the professional education process. The reasons are as follows: first, professional schools control the selection process and, therefore, have a great influence upon the former of these three forces — the personality predispositions. Second, and quite simply, professional schools control professional education which constitutes a major portion of the total socialization process experienced by professionals. Third, professional schools gain in importance as our society becomes increasingly meritocratic and credentials conscious, thereby lengthening the period of formal training and, correspondingly, the importance of professional schools in affecting the perspectives of professionals. Finally, professional school faculty members often provide major leadership to their fields, especially through research and publications. They represent important role models with which experienced as well as neophyte professionals identify.

The other logical locus for effecting change is in professional practice. However, there are at least two major obstacles to concentrating on this aspect: one is the difficulty of inculcating new norms once role concepts are established (as occurs for example, through professional education) and the other is the impracticability, due to logistical difficulties, of influencing professionals in the field.

Phase I of this project set out to discern what steps professional schools are taking to respond to changing societal needs. The central portion of this monograph contains summaries of nearly 200 such efforts — efforts that appeared to be exemplary at least in their goals, if not always in their outcomes.

[8] This assumption has been thoroughly documented by Regis D. Walther, et al., "The Shaping of Professional Subcultures: A Study of Student Groups from Five Professions," (Washington, D.C.: Educational Resources Information Center, 1968), ED 038 904. Walther drew upon the works of Thorstein Veblen, W. Waller, Anne Anastasi, E. L. Kelly and L. R. Goldberg, and L. M. Terman.

METHOD

If there were ever an ad hoc method for identifying exemplary[7] professional school programs, the procedure used to gather material for this monograph was it. The task was to locate sources that would reveal the institutions in which exemplary professional school programs existed. There was, of course, no such single source.

At the outset, the educational associations of the several professional organizations (e.g., the American Association of Colleges for Teacher Education [AACTE]) were contacted for listings of such programs. Eventually, agencies of the federal government, of the accrediting associations, of the professional groups themselves (e.g., the American Medical Association), and many others were approached. Only the AACTE was able to identify a group of such programs for teacher education (the AACTE conducts an annual competition for the Distinguished Teacher Education Program award). Most associations were able to identify a few institutions with exemplary programs, but some were able only to identify other possible sources of information. Often reference was made to a single professional person who was working in this area and who "might know of some exemplary programs." The "informed individual" turned out to be the most lucrative single source of information. Often there was at least one individual in each profession who knew of the recent curricular developments of many of the professional schools in his field. The great difficulty with this, however, is the uncertainty about the breadth of coverage obtained. There is no way to know how many gaps exist.

Thus, when initial contacts with the professional schools were made, they were asked to identify other institutions with exemplary or innovative programs. Such a process greatly lengthened the time for preparation of this monograph because each wave of contacts produced new leads to be followed. Even with this tactic, great doubt remains as to the present breadth of coverage. Clearly, significant numbers of exemplary programs must have escaped notice; in some professions this number well may surpass the number identified.

Mention should also be made of the process by which the summaries of the subsequent chapters were produced. After receiving the initial materials from the professional schools, a description of the program as explained by the materials was made. Occasionally this meant abstracting voluminous reports and grant proposals into a one- or two-page document. These condensed summaries were then returned to

[7] This term will be used in place of the more cumbersome phrase "programs designed to meet the emerging needs and demands of society." At this stage "exemplary" is intended to mean only exemplary in program goals.

the originating institution for their corrections and additions or deletions, the resulting version being, in most cases, the summary contained here.

The remainder of this monograph is organized as follows: Each of the eight chapters of summaries presents the exemplary programs identified in each of the eight professions shown in the paradigm. The order of chapters is also consistent with the paradigm. Each chapter begins with a brief discussion of the societal demands or needs as identified in a sample of the professional journals and in the popular press. Then general thrusts within the profession are discussed, with the summaries organized internally along the lines of the three issues of the paradigm: quantity of professionals, service modes, and delivery systems. The final chapter makes some conclusions about these efforts — what they seem to have in common, their general orientations or directions, and the gaps which seem to remain. Again, the paradigm is the framework for these analyses.

*Portions of this chapter were adopted from an earlier paper by the author and James L. Morrison, entitled "Social Change and Professional Education in American Society," which will appear in *Intellect*.

PART I

Group I Professions

18/19

1/ Law

> Many of the young people who are applying to the nation's law schools in record numbers see the law as a tool to help the underprivileged and oppressed. At the same time, a growing faction in the legal profession is expressing doubts about the capacity of the law schools to respond to a demand for this kind of legal education.[1]

From society's standpoint there is much wrong within the legal profession. To the man on the street, attorneys often appear to be more concerned with protecting criminals from the public than vice versa. Yet, in the beginning, societies established laws solely for the purpose of safeguarding the public from criminal acts. It is ironic that a system that was developed to serve this purpose should be perceived as having the opposite effect. To many the adversary system by which attorneys represent their clients seems to have become little more than a game to be won. It does not seem to matter whether counsel knows his client to be guilty. Perhaps, realistically, there are no remedial actions that can or should be taken by a legal faculty or the broader legal community. It may be that there is no option to the legal ethic of defending to the best of one's ability every person, innocent or guilty. However, as compelling as this argument may be, logical minds can easily see that something is drastically wrong. If there are no solutions within the profession or within law schools, surely the public increasingly will direct their elected representatives to put some balance into the rights of all concerned. The 1970 District of Columbia crime bill was one illustration of this demand.

Another popular stereotype of the practicing attorney is that of the "ambulance chaser." The legal fraternity justifiably would argue this to be gross exaggeration; however, the ambulance chaser stereotype is symptomatic of a very real problem within the legal system. It is a well-known fact and a national crisis that our courts are jammed to the point that the guarantee to a speedy trial cannot be met. Civil cases often require two or three years to come to trial. Even criminal cases

[1] Fred M. Hechinger, "Law Students: A Plan to 'Learn While You Defend,'" The *New York Times*, May 16, 1971, Section E, p. 9.

are affected; persons accused of criminal offenses are imprisoned for months or — worse yet, for subsequent victims — they are freed for months pending trial. Civil accident suits are the source of much of the strain upon court dockets. "The matter of auto accidents has plagued us for years,"[2] a nationally prominent attorney stated.

A comparison of the United States and the Canadian legal systems suggests that the overwhelming work load of the American courts can be laid at the doorstep of our contingency fee system which allows the attorney to share in the settlement to the plaintiff. In Canada this practice is viewed as unethical; and without the stimulus of attorneys seeking large contingency fees, civil accident cases are far fewer in number than in the United States. In addition to less pressure on the courts, automobile liability insurance and medical malpractice insurance premiums are greatly reduced and the public reaps considerable savings.

Probate is another practice costly to the American public. A few years ago, a noted attorney, William Pincers, published a book describing how the public could often avoid probate. In an article in the *Journal of Legal Education (1969)*, the author reported that his book "led to considerable outrage on the part of the bar." Even though probate may be unnecessary in some cases, the profession apparently did not respond favorably to the possible elimination of this source of revenue. Such a commentary has led some to wonder whether the legal profession has the best interests of the public at heart.

The same author suggested that members of the bar allow accountants to perform accounting tasks, such as the preparation of income tax returns, and that title companies be given full responsibility for the processing of real estate transactions. His reasoning was that members of other professions are at least equally suited to conduct these tasks, the elimination of which would free lawyers to perform strictly legal functions. The author asserted that more time and attention could then be found for the provision of legal services for the poor.

"The first item on the agenda (for the profession) *is* the extension of legal service."[3] Although the Gideon Case mandated the provision of counsel in noncriminal cases, the terms of that decision by no means have been met. Pincers clearly states the social responsibilities of the legal profession, including the first priority which must be to provide

[2]William Pincers, "The Lawyer's Professional Responsibility," *Journal of Legal Education* 22 (1969): 1-21.

[3]Ibid.

equality of legal service. Although his is not an original suggestion, Pincers goes a step further in holding that the acquitted should be reimbursed for loss of pay and that they should never have to pay their legal costs.

A plan for the solution to these problems will not be presented here; even tentative suggestions will require much research. In the interim, however, in the words of one writer, there is a "new breed of law students beginning to join the traditionally motivated student. This is the socially conscious student, emerging from American undergraduate schools, who demands fundamental change in the basic fabric of American society."[4] Without new values, perhaps little change is possible; with them the seeds of change can fall upon fallow ground. A final quote from Pincers is relevant here:

> It is also essential that lawyers, and particularly legal educators, become active in the reform of professional education. There is a responsibility on all educated men particularly to insure that education for a profession is relevant to the needs of society, just as they have to be concerned to make practice of the profession relevant to such needs.[5]

Pervading the literature of all professions today is a model, a panacea, for the solution to all our social-professional urgencies: the interdisciplinary curriculum. Although the legal education programs identified here centered their efforts on clinical experiences, the content of these programs was often a "socio-legal" curriculum; other professions have a similar, hyphenated curriculum adjective. Most professions have appointed a body similar to the American Association of Law Schools committee which was established to study the feasibility of curricular revisions.[6] In law, as in most professions, several in-house critics have also written regarding the need for the humanistic study of the profession.[7] Dunn, for example, grounded his convictions upon a comparison of the perceptions of law school graduates who had studied under the traditional case study approach, those who had experienced the case study plus problem-solving approach, and those

[4]E. Hunter Taylor, "Wealth, Poverty and Social Change: A Suggestion for a Balanced Curriculum," *Journal of Legal Education* 22 (1970): 227-39.

[5]Pincers, "The Lawyer's Professional Responsibility."

[6]American Association of Law Schools, "Report of the Curriculum Committee," *Proceedings, 1966 Annual Meeting* (Washington, D.C.: AALS, 1966).

[7]Charles A. Reich, "Toward the Humanistic Study of Law," *Yale Law Journal* 74 (1965): 1402-7.

who were schooled in the newer interdisciplinary curriculum (political science, psychology, and sociology, plus the law). Dunn found that the students who had studied under the interdisciplinary program perceived themselves to be better prepared than did those traditionally educated, while those educated using the combination case study-problem solving technique also perceived advantages over the traditional technique.[8]

In legal education some beginnings have been set in motion. The legal profession has given consideration to its social responsibilities and some action, such as curriculum revision, has already occurred. The programs described in the following pages are only illustrative of the responses by legal education to society's pressing legal needs.

[8]Richard E. Dunn, "Legal Education and the Attitudes of Practicing Attorneys," *Journal of Legal Education* 22 (1970): 220-40.

THE EXEMPLARY PROGRAMS

Each of the five programs described in this chapter demonstrate the immersion principle by which students are provided broad and deep clinical experiences. Indeed, there is a unanimity of purpose apparent in these exemplary legal education programs that is unrivaled by any of the other professions under study. Even the language used by the five in describing their programs is quite similar. Further, four of the five programs list specifically the provision of legal aid to the needy, poor, or indigent. It appears that some law schools are mounting attacks on at least two of the significant problems facing them.

All programs are oriented to advancing the quality of professional preparation through broader experiences with alternative service modes. The implication is that legal education has been too isolated from practice, that the traditional case study approach has failed in certain ways to provide neophyte attorneys the facsimile experiences they will encounter in practice. These curricular changes tend to bear out Dunn's 1970 findings that the traditional case-study approach is less satisfactory to students than are problem-solving and interdisciplinary approaches.

The focus of these clinical or field experiences is generally upon the "new client": the poor, the minorities, the disenfranchised. This combination serves two of the larger and newer aims of legal education: extension of legal service to those previously underserved, while enriching the preparation of the student clientele through applied study. The broad implications are clear: service modes must be broadened to include preventive functions, particularly for those in greatest need.

Title:	Clinical Program
Location:	Ohio State University
Sponsor:	Ohio State University
Funding:	$80,000 to $90,000 per year
Size:	70 students per year 2 full-time faculty 3 part-time faculty 2 full-time supervising attorneys
Contact Personnel:	Bruce R. Jacob Professor of Law Director of Clinical and Interdisciplinary Programs Ohio State University College of Law 1659 North High Street Columbus, Ohio 43210

Objectives: To insure that students engaged in representing real clients or solving live legal programs will have their clinical experience integrated with advanced study of the law and policy problems.

To have students render substantial legal assistance to needy clients.

To provide superior legal education.

Description: Clinical training is offered at the College of Law as a part of the regular curriculum. Currently there are a wide variety of opportunities for third-year students to acquire clinical training in poverty law areas by enrolling in practicums providing one to six hours of credit. Practicums provide clinical training in the practice of law under the close supervision of a faculty member and the supervising attorney, using live cases and phases of live cases whenever practicable. Practicums are planned and organized to insure that each student receives supervised training in all important elements of a particular kind of practice.

Poverty Law Specialists: Civil. Students interested in civil practice on behalf of the poor after graduation may develop a specialty in this field by enrolling in the courses in "Legal Problems of the Poor" and "Legal Problems of the Poor — Remedies," and by electing the Civil Law Practicum.

Poverty Law Specialists: Criminal. Students interested in criminal practice on behalf of the poor after graduation may develop a specialty in this field by electing at least one course in the criminal justice area and by enrolling in the Criminal Law Practicum.

Other Clinical Experiences. In addition to the opportunities to develop poverty law specialties, clinical training is also available through a Welfare Law practicum, associated with the Welfare Law Seminar and designed to expose students to the live legal problems of welfare clients; through a Juvenile Law practicum designed to provide experience in the operations and problems of the juvenile courts; through a Criminal Appeals and Postconviction Remedies Practicum, a Civil Liberties Practicum, and a Practicum in Influencing Decisions of Correctional Administrators.

Title: Corrections Law Program

Location: University of California

Sponsors: University of California
University of California at Los Angeles School of Law

Funding: $32,900 for 1972-73
Additional support from UCLA School of Law

Size: 22 students in 1973 summer program
5 faculty

Contact Personnel:

John A. Bauman, Associate Dean
School of Law
University of California
Los Angeles, California 90024

Objectives:

To have a major impact on the development of law and policy in corrections by providing a focus for informed discussion and study.

To develop and implement a coherently structured educational environment for study of corrections law integrated with opportunities for field research during Quarter-Away and summer placements.

To bring together law students and faculty; administration, staff, and inmates of the California correctional system; and lawyers and judges now primarily concerned with corrections law.

To encourage law students, particularly minority students, to consider specialization in the corrections area of criminal justice.

To create a research center which generates informed commentary on present practices and sound proposals for future action.

To expose a significant number of lawyers and law students to the legal and social issues posed by the laws governing the convicted and by our present methods of punishment.

To evaluate the program's innovative approach to legal education which integrates multiple clinical experiences with traditional legal seminars and courses.

Description:

Following their first year in the Law School, students in the Corrections Law Program spend ten weeks on summer fellowships as interns in the facilities of the California Department of Corrections and Youth Authority. They live in the institutions and have complete access to staff and inmates. In the fall they return to school for formal academic training in corrections and juvenile law.

The curriculum is divided into the following time blocks:

Block A:	9 months in law school
Block B:	3 months in institutions of the California Department of Corrections and Youth Authority
Block C:	6 months in law school
Block D:	6 months in correction-related participation research
Block E:	9 months in law school

UCLA offers the most extensive curriculum in Corrections Law of any school in the United States. The courses have been significantly enriched by the active participation of students who have experienced summer fellowships.

Title:	Clinical Education Programs
Location:	University of San Diego School of Law
Sponsors:	University of San Diego School of Law United Way
Funding:	$24,000 total
Size:	80 students per semester 2 faculty
Contact Personnel:	Charles A. Lynch Assistant Professor and Director of Clinical Education University of San Diego School of Law San Diego, California 92110
Objectives:	To offer law students practical legal experience in the community thereby giving them the opportunity to supplement and implement their academic education, develop their skills, and promote professional responsibility. To provide the indigent population in the San Diego area with the adequate representation, both general and specialized, which is not available elsewhere in the legal community.
Description:	There are three types of Clinical Education Programs: Neighborhood Clinics Four neighborhood clinics in this program are located in Linda Vista, southeast San Diego, National City, and Escondido. They are staffed by third-year day students and fourth-year evening students. The teams of students, under the supervision of a practicing attorney, staff the clinics approximately twice each month to interview clients. Students investigate, research, plead, negotiate, and appear in court on those cases accepted by the team. Criminal Law Public Agency Clinics Students work in the offices of the City Attorney, the U.S. Attorney, and the District Attorney, assisting in prosecuting criminal cases through investigation, research, and court appearance. On the defense side, students perform counterpart functions in the Federal Public Defender's office and appear before the federal magistrate to argue federal misdemeanor cases. Students work with attorneys in private practice and in the offices of Defenders, Incorporated on criminal cases, and often associate in trial work. The offices of the Criminal Appellate Defender are located on the University campus. Students assist attorneys in preparing and arguing criminal appellate briefs. In the Postconviction Clinic, students interview inmates of the county jail and assist in researching, pleading, and arguing both civil and criminal matters.

Civil Law Public Agency Clinics

Students work in the Office of the County Counsel, the Appellate Unit of the Department of Public Welfare, the San Diego Unified School District Legal Office, and the Civil Fraud Unit of the District Attorney's office doing investigation, research, pleading, and litigation on civil matters. Students clerk for municipal and superior court judges or work in one of the legal aid offices interviewing clients, doing research, preparing pleadings, and appearing in civil litigation representing indigent persons. The Navy and Marine Corps accept students for work in the Judge Advocate General's office on military bases. Students work under the direction of a practicing attorney in matters involving military law, assistance to low income servicemen, and government tort claims.

Each student in a Clinical Education Program attends two hours of class each week, earns two units' credit per semester, and is limited to two semesters in the program.

Title:	District of Columbia Project on Community Legal Assistance
Location:	Georgetown University Law Center
Sponsors:	Information not available
Funding:	Information not available
Size:	25 students in "Community Legal Assistance" 15 students in "Street Law"
Contact Personnel:	Addison M. Bowman Co-Director for Defense-Offender Rehabilitation Georgetown University Law Center Graduate School of Law Legal Internship Program 600 New Jersey Avenue, N.W., Suite 1B-2P Washington, D.C. 20001
Objectives:	To provide law students with practical experience in the operation of the District of Columbia legal system. To satisfy the increasing desire for community service and a more participatory form of legal education.
Description:	This new clinical program is an outgrowth of a pre-existing seminar in Public Interest Law in the District of Columbia. It is open to second and third year students, and consits of Community Legal Assistance and Teaching "Street Law." Community Legal Assistance Students provide legal and interdisciplinary assistance to community groups, city and federal agencies, metropolitan

groups, and local legislative offices on their day-to-day problems. Individual students' projects are diverse and include such areas of urban law as housing, education, welfare, consumer problems, drugs, communications, and employment. A weekly two-hour seminar is held throughout the year. Ten semester hours of credit are given.

Teaching "Street Law"

Students teach local high school students aspects of the law relevant to their lives. The aim is to acquaint the students with legal tools helpful to them and their families in daily living. Students are expected to devote three hours a week for two semesters to teaching such subjects as criminal justice; housing and consumer protection law; student rights; trial procedure; and aspects of small claims, tax, welfare, individual rights and torts. In addition, the law students are required to spend considerable time preparing to teach and in supervising their students. A two-hour seminar is held weekly with Professor Newman. Eight semester hours of credit are given.

Title:	Clinical Law Education
Location:	New York University
Sponsor:	New York University School of Law
Funding:	$200,000 for 1973-74
Size:	100 students per year 8 full-time faculty 4 part-time faculty
Contact Personnel:	Robert B. McKay School of Law New York University 40 Washington Square South New York, New York 10012
Objectives:	To train "people-oriented counselors" through a clinical experience which stresses the lawyer's responsibility to the individual client, not only in the traditional area of legal representation but in the variety of matters which concern an educated democratic citizenry. To render law school education more complete and of immediate value to the community surrounding the school.
Description:	During the past three years great freedom has been afforded faculty members and students to experiment with various forms of clinical work. Clinical course offerings differ: some have no seminar component, others are coupled with a traditional seminar, and still others include "seminar sessions" which are actually

group discussions or opportunities to hear experts in a particular field. The types of activities undertaken in the clinical programs vary significantly from basic observation and reporting to actual client representation. Courses range from two credits (one semester) to fourteen credits (two semesters).

Clinical courses have been limited to criminal law and civil property law matters. This is so even in the "Labor Law Clinic" and "Economic Development" courses, where the emphasis has turned toward the problems of the individual laborer and minority enterprise. Viable opportunities exist to apply the clinical technique in traditional areas such as corporations, finance, taxes, etc.

2/ Health Services

> While the Twentieth Century has seen a tremendous burgeoning of scientific medicine, a splendid proliferation of specialized talent in medicine, and an almost unimaginable refinement of the medical armamentarium, it has also witnessed the withering away of the family physician function, a disturbing alienation of physicians from society, and a growing disenchantment on the part of many thoughtful people concerning the medical profession's response to the needs of people for medical care.[1]

Central to any discussion of societal needs in the health services professions are the straightforward problems of obtaining health professionals in numbers sufficient to meet society's needs. Anyone who reads a newspaper or has lived in areas removed geographically from medical schools is aware of the serious shortage of medical doctors; he or she may not be aware, however, of similar shortages of dentists and nurses. Projections through 1980 predict that these three professions will remain in the category of serious undersupply.[2]

Shortages of dentists exist even though one-half of all children reach age fifteen without having visited a dentist.[3] In light of this, it takes little imagination to speculate about dental services for poor children; obviously the poor are overrepresented in this deprived one-half. Meanwhile, an international comparison shows that many nations provide free dental care. There is no inequality due to wealth or accident of birth in several of the less wealthy nations.[4]

[1]Bryan, James E. *The Role of the Family Physician in America's Developing Medical Care Program.* (St. Louis, Missouri: Warren H. Green, Inc., 1968), p. 4.

[2]*U.S. News and World Report,* January 25, 1970, from a report by the U. S. Department of Labor, Manpower Office.

[3]Roul Tunley, "America's Unhealthy Children, An Emerging Scandal," *Harper's Magazine* 232 (May 1966): 41-46.

[4]Ibid.

An article entitled "Shortages of Nurses — No Solution in Sight," appearing in *U.S. News and World Report* (1970), makes similar if not more severe observations regarding supplies of nurses. There presently are 155,000 fewer nurses than needed and the 1975 projection indicates an imminent deficiency of nearly 200,000. Medicare and Medicaid programs are certain to aggravate this already desperate situation, as are plans to convert nurses to physician surrogates.[5] In this, of course, society is faced with yet another conflict having implications for professional education — will physicians tolerate the intrusion of para-professionals into their domain? And if so, at what costs?

The *U.S. News and World Report* article cites a number of steps, only in their infant stages, which have been taken to begin reducing the shortages. New York City, for example, has begun to retrain retiring policemen and firemen to become nurses. There is also substantial recruiting of foreign nurses and refresher courses for nurses who have stopped practicing their profession. Hospitals have established day care centers for the children of active nursing professionals, and perhaps, most significantly, nursing pay has been raised substantially.

As serious as these shortages may be, the picture for physicians is even more grave; in fact, a Carnegie Commission Report (1971) termed the situation "critical."[6] The Commission recommended vastly increased federal support for medical education; at the same time it acknowledged that this alone would not solve our health care problems. The Commission Report quoted spokesmen for the Association of American Medical Colleges as saying:

> Merely increasing the number of doctors would not solve the nation's health care problems. Increased training of other health care personnel is needed, as is a new system for delivering health care to the public.[7]

But, the outgoing chairman of the association added:

> If by some miracle, 50,000 doctors were to appear in the United States tomorrow, there is little reason to believe that they would distribute themselves nicely among the

[5] May W. Aisen, "Up the Vocational Stairs," *American Journal of Nursing* 70 (December 1970): 2614-17.

[6] Rashi Fein and Gerald I. Weber, *Financing Medical Education* (New York: McGraw-Hill, 1971).

[7] The *Chronicle of Higher Education*, November 2, 1970. News items summarizing Carnegie Report on medical needs.

> specialties with the most notable shortages; nor is it likely that they would seek practice opportunities among sparsely populated rural areas or in urban ghetto areas to any extent greater than the physicians currently practicing.[8]

There have been other plans for expanding the numbers of health personnel besides those for increasing the number of medical students and providing for their financial support as recommended by the Carnegie Commission. Among those most popularly reported have been plans to shorten the training period of doctors and to create new occupations that would be the equivalent of physicians' assistants.

There can be no question that the quantity of health service professionals affects the quality of health care for the nation. At present there simply are not enough physicians to render health care to everyone. Although we are the last industrial nation in Western society without universal health care, we were the first in open-heart surgery; we conquered polio; we were the victors over smallpox, yellow fever, and typhoid; we have cut tuberculosis by 87 percent in the last twenty years, rheumatic fever by 90 percent, and we have won more Nobel prizes in medicine than any other nation.[9] Concurrently, European obstetricians consider ours to be an "underdeveloped nation." We have slipped steadily in infant mortality rate, from the sixth-ranked nation in 1950 to fifteenth in 1961 to eighteenth in 1967. The proportion of pregnant women receiving prenatal care is declining by about 2 percent per year.[10] Contrary to popular view, these statistics are not primarily a result of inadequate treatment for our disadvantaged. They are explained by a broader inequality of medical treatment: poor people, two-thirds of whom are white, simply do not have health care available to them.

In general, health centers are not established in poverty areas and, with some notable exceptions, medical school graduates do not seem to be attracted to the central cities where most of the poor reside.[11] The

[8] The *Chronicle of Higher Education*, November 9, 1970, pp. 1, 6. News item regarding financial straits of medical schools.

[9] Lunley, "America's Unhealthy Children."

[10] Ibid.

[11] The *Chronicle of Higher Education*, November 9, 1970, p. 6.

dean of Dartmouth College's Medical School has said that medical centers

> Ought to be involved towards an optimal health-care delivery system by exploring ways to relate effectively to the areas and regions they serve, by improving the supply of well-trained personnel, and by the vigorous application of analytic techniques to the problem at hand.[12]

The Carnegie Commission reports that "medical schools have talked a good game but have not actually done much about improving delivery of health care."

One of the oft-cited detriments to new systems of health care delivery has been the existing model of medical education. Doctors have been trained in the diagnosis and treatment of diseases; for the most part they have not been trained in preventive and community medicine. Yet it might be argued successfully that preventive medicine is better suited to the health needs of the poor. Instruction in personal hygiene, massive inoculation programs, and health education would probably do more for the health of America's poor citizens than proper diagnosis and treatment of disease. There is little assurance that the person who fails to understand his malady and the potential benefit of prescribed drugs will follow a physician's direction; in fact, far from assurance, physicians commonly assume that most poor people will not follow their medical instructions. All of this suggests that a new emphasis for medical education is needed. In the words of Algo Henderson:

> When a medical school shifts its focus from the study of disease to the study of man, his growth and development, his health, and the impact of his environment on him, the study of the human being from the fetus to senilty becomes highly important.[13]

These observations will come as no surprise to medical schools, or at least, for example, to the 85 percent which have already added courses in community medicine.[14] The impact of such programs, however, remains to be assessed. The dominant values within medical schools suggest a wait-and-see attitude on the part of society. In the past, medical school priorities have not been on programs such as these.

[12]Fein and Weber, *Financing Medical Education*.

[13]Algo D. Henderson, "An Educator's View of the Goals Report," *Engineering Education* 58 (September 1968): 25-30.

[14]Ann Blackman, "Young Doctors More Idealistic than Ever," *Trenton Evening Times*, October 7, 1970, p. 18.

THE EXEMPLARY PROGRAMS

The great activity within the health professions lends support to the "squeaky-wheel-gets-the-grease" axiom. Public ferment about the health professions has been rivaled only by the recent turmoil surrounding no-fault insurance. Considerable government action has resulted in both cases; and the health schools, if not the law schools, have responded in turn by demanding more resources to meet the challenges. Many of these resources apparently have been forthcoming, as the number of exemplary programs identified in the health professions represent almost one-half of all the programs identified. Because these numbers are large, the program summaries of this chapter are divided into four parts: programs for physicians, programs for physician assistants, programs for nurses, and programs for dentists.

Programs for Physicians

Among the twenty-four programs identified in this area the overriding concern clearly is with the quantity of physicians available. Twelve programs are primarily efforts to increase the supply of physicians or to redistribute physicians geographically or internally among the various specialties. Indeed, the earlier quotation that the need is not simply for more doctors but for a particular distribution of those doctors is clearly manifested in these programs.

The first four program summaries, those from the Universities of Missouri, Colorado, New Mexico, and The Pennsylvania State University, aim to produce rural physicians. The University of Missouri makes a straight-forward attempt to prepare competent rural physicians. The Colorado and Penn State programs utilize a rural preceptor, while the New Mexico project combines attention to delivery systems. Here medical students spend considerable time in a rural health clinic.

The next two programs, those at The Pennsylvania State University and at The University of Pennsylvania, reflect a state drive to increase the number of family practitioners. Both have secondary purposes, too. The Penn State program is the only one of the twenty-four that appears to give significant attention to preventive modes of service. The University of Pennsylvania program, in addition to preparing family practitioners, seeks the redistribution of physicians among the various specialties and the provision of comprehensive health care.

Programs of the University of Minnesota and the University of Washington give priority to the increase in general supplies of physicians, although secondary objectives are also listed. The summaries of

both begin with the objective "to increase total numbers of physicians" in the states involved. Secondarily, both seek the geographic redistribution of physicians within their regional boundaries, which can be interpreted to mean more physicians for the rural and semirural areas. The University of Minnesota's comprehensive program also includes special attention to the preparation of family practitioners.

The University of California, the University of Alabama, and the Temple Medical School programs have another special target for the increasing of supplies of physicians. All three programs seek to attract and retain minority group students, a goal being widely advertised as a means to enhancing equal opportunity. The implicit or explicit goal, as the case may be, is to prepare physicians who will practice in areas serving high minority and poverty group populations. To be sure, the purpose of improving educational opportunity for minority group students is a concomitant objective; but the provision of physicians for minority communities is of highest priority.

The eleventh program in this area of supply is that of the University of New Mexico which seeks to respond to shortages in a special field of medicine: mental health. The prevalent mental health delivery system is also given attention.

The primary objective of seven of the remaining programs is the improvement of medical delivery systems. The general thrust of these programs is to provide students with experiences in community health clinics, particularly in areas where health services are limited. Thus, several of such clinics are in the central cities of large metropolitan areas. One is located on a Navajo reservation, and one serves an isolated geographic area in Pennsylvania. Two of the programs include the preparation of physician assistants although the primary emphasis is on delivery systems.

One such program deserves special mention, not only because of its considerable efforts to improve delivery systems, but also because of the comprehensiveness of its offerings. The Division of General Medicine of George Washington University directs its efforts to satisfy each of the major problem areas in the preparation of physicians. Emphasis is given to research and practice in the provision of new delivery systems; some attention is even devoted to the alteration of service modes. There is also a physician assistant training program and a narcotic treatment program.

Four of the remaining five programs focus on the values held by physicians. Their efforts range from a single course at the University of Utah to the extensive offerings of a Department of Behavioral Sciences at the Hershey Medical School of The Pennsylvania State University. The programs seek to awaken in the physician a sense of

responsibility toward the total community in which he resides and to cope with the constant changes faced by the medical profession in providing health care.

The last of the twenty-four programs for physicians seems to fit none of these major categories. The program at the Rutgers Medical School has a more traditional goal, though the procedures used are somewhat atypical. The Rutgers program seeks to upgrade the quality of medicine offered by practicing physicians through a coordinated continuing medical education program. Efforts are statewide and are decentralized from the Rutgers Campus.

The alteration of service modes from condition treatment to prevention would be expected logically to emanate from schools of public health. However, the three responses resulting from efforts to identify exemplary programs in public health have goals similar to those of the programs identified in this section. Significant efforts in the service modes area were not identified. Health care delivery systems, the surveying of health facilities, and a joint program in health administration and business administration were the foci of the programs identified.

Title:	Health Professions Project Grant Program
Location:	University of Missouri
Sponsors:	Division of Physician and Health Professions Education Department of Health, Education and Welfare Public Health Service
Funding:	1972-73: $73,000 1973-74: $49,906 1974-75: $83,316
Size:	Information not available
Contact Personnel:	Jack M. Colwill Assistant Dean of Medicine School of Medicine Room M 228 Columbia, Missouri 65201
Objective:	To emphasize rural practice of medicine.
Description:	This program has four components: Selective admission of medical students who seem likely to enter rural practice. Development of special educational programs to increase the awareness among medical students of opportunities, gratifications, and needs in rural health delivery. Early identification and assistance directed to academic problems which may be present as a result of inadequate educational background.

A four-year longitudinal study of each student's medical education to follow his interests and career goals.

Title:	Rural Preceptorship Program for Medical Students
Location:	University of Colorado
Sponsors:	Rural physician preceptors Committee on Medical Education and Hospitals of the Colorado Medical Society AMA Rural Health Committee Colorado Academy of General Practice Medical school faculty
Funding:	$10,000 per year
Size:	25-30 students per year 10 preceptors 1 faculty member
Contact Personnel:	Herbert R. Brettell, M.D. Associate Professor of Medicine and Head, Division of Family Practice University of Colorado School of Medicine 4200 East Ninth Avenue Denver, Colorado 80220
Objectives:	To provide experience in community aspects of medical practice and family care in a rural or small community setting. To demonstrate to some students the possibilities and the challenge of general practice in a rural area so that the students may prepare themselves for this type of practice.
Description:	The preceptorship is an elective and is available to senior medical students, who may participate for one to three months. During that period the student is provided room and board by his preceptor. A stipend of $250 per month is paid to the preceptee by the Advisory Committee. No standard preceptor technique is prescribed because each preceptor adopts the most effective style of teaching compatible with his own personality and the individual needs of each student. However, the student should be given some definite responsibility for patient care after he is oriented. His responsibilities should increase as circumstances warrant, but he should never practice medicine without the preceptor's direct supervision. All of the student's notes and recommendations must be checked by the preceptor. He should be required to do work-ups on new patients in the office and in the hospital. Preceptors are required to evaluate preceptees, and the student is required to submit a written report of his experience during the preceptorship. Students who have participated in this program to date have considered it one of the most meaningful and valuable experiences in medical school.

Additional Information:	Students from other medical schools may participate in the program if vacancies exist. Room and board will be provided, but no stipend from Colorado is available for such students. It is hoped that the student's own medical school might provide the stipend. Except for the matter of stipend, all conditions of the preceptorship will be the same as for Colorado students, including written reports by preceptor and preceptee.
Title:	Project Porvenir
Location:	Hatch Valley Clinic Truchas-Porvenir Clinic
Sponsors:	Department of Family and Community Medicine Bureau of Health Manpower Education, National Institutes of Health
Funding:	$233,000 for a two-year period from July 1, 1972 to June 30, 1974
Size:	9 students (maximum) at any one time 1 half-time faculty member from the School of Medicine 1 half-time faculty member from the School of Nursing 1 half-time faculty member from the School of Pharmacy
Contact Personnel:	Dr. William Wiese, Chairman Department of Family and Community Medicine 943 Stanford Drive, N.E. University of New Mexico Albuquerque, New Mexico 87106
Objectives:	To develop, implement, and evaluate by June 1974 a model of rural health care delivery which uses health clinics as principal patient contact points. To develop an educational program that will increase the proportion of professional manpower entering rural health service. To stimulate and encourage the interest of health sciences students in the area of rural health delivery by providing opportunities for participation in the development of this educational program and for work with the participating clinics in such areas as program development and evaluation.
Description:	The Project Porvenir rotation is an innovative approach to medical care delivery and medical education. Two students are assigned to each clinic where they have responsibility for patient care in the community. They provide ambulatory care in obstetrics/gynecology, pediatrics, internal medicine, and psychiatry. Physicians in the area serve as consultants and teachers and provide in-clinic coverage at the student's request and at designated times. Students have hospital privileges at Memorial General Hospital in Las Cruces and at Espanola Hospital, and share responsibility with the precepting physicians for

patients referred to the hospital. Students are encouraged to accept responsibility for community health education and to coordinate specialty screening clinics.

Nursing and pharmacy students also participate in this interdisciplinary experience.

Title:	Primary Care Preceptorship Program
Location:	The Pennsylvania State University College of Medicine
Sponsors:	Division of Physician and Health Professions Education Public Health Service Department of Health, Education and Welfare
Funding:	$47,265 for 1973-74
Size:	75 medical students 6 faculty 173 physician-preceptors
Contact Personnel:	Hiram L. Wiest Project Director Primary Care Preceptorship Program The Milton S. Hershey Medical Center The Pennsylvania State University Hershey, Pennsylvania 17033
Objectives:	To provide first- and second-year students a realistic sampling of primary care options as a basis for further career choice. To provide third- and fourth-year students an in-depth experience in a selected form of primary care as part of their clinical training and as a basis for career choice. To provide an experience in rural and other physician-shortage areas in an effort to interest students in practice in these areas.
Description:	One-week preceptorships are offered to first- and second-year medical students in family medicine, pediatrics, or medicine. A second week is granted if the Project Director deems the preceptee capable, in need of, and deserving of additional training. Students in this category function primarily as observers and accompany their preceptors on a full-time basis. A one- to three-month experience is offered in the same types of primary care for third- and fourth-year students. Students at this level are active participants in providing health care for the patients of their cooperating physicians while undergoing preceptorship training.

Title:	Family Practice Residency Program
Location:	The Pennsylvania State University

Sponsors:	National Institutes of Health Academic Enrichment Fund The Pennsylvania State University
Funding:	$80,000
Size:	12 students 2 faculty
Contact Personnel:	Dr. Willis W. Willard, Coordinator Family Practice Residency Program Department of Family and Community Medicine College of Medicine The Milton S. Hershey Medical Center The Pennsylvania State University Hershey, Pennsylvania 17033
Objectives:	To provide every student with a background and understanding of family practice. To focus the student's attention on the type of patient he will probably be seeing most — the ambulatory patient. To prepare the resident for the practice of family-centered, comprehensive, continuing health care with emphasis on preventive medicine, efficient health-care delivery, and thorough understanding of the physician's community role.
Description:	The *Family Practice Units*, under the direct supervision of at least two full-time faculty members, are the primary areas for training in ambulant care. During the first year of residency, the family practice resident is assigned ten to twenty families, carefully selected from the practice of the faculty members for whom he will provide primary care. He is expected to perform Weed-style histories and physical examinations on all members of his assigned families and to stress health maintenance rather than crisis care. Discussion of initial evaluation and continuing care of assigned families occurs weekly in department conferences. All chart entries and all prescriptions are reviewed by faculty members. The resident spends approximately five hours per week in the Family Practice Unit and rotates with the other first-year residents in covering his assigned families on nights and weekends. A major portion of the resident's time is spent in the hospital setting during the first year of residence. The second-year resident is assigned thirty to fifty families and spends a correspondingly greater amount of time in the Family Practice Unit on a three half-days-per-week basis. He is expected to outline "health hazard appraisals" where appropriate for all adult members of his assigned families and to continue to rotate with his colleagues in the provision of night and weekend care. In the second year, emphasis is also placed on subspecialty areas of medicine and surgery. The third-year resident's time is designed to allow the resident, in consultation with the faculty of the Department of Family and

Community Medicine, to decide his areas of deficiency in relation to his upcoming practice. He may then elect to concentrate *on those areas for extended periods of time. He will also spend* at least six months of his time in the Family Practice Unit acting in a supervisory capacity for his junior colleagues and teaching medical students, registered nurses, and paramedical students.

Title	Program for Comprehensive Care and Family Medicine
Location	University of Pennsylvania
Sponsor	School of Medicine Bureau of Health Manpower
Funding	Information not available
Size	60-70 students per year Faculty of the School of Medicine
Contact Personnel	Dr. Edward J. Stemmler, Program Director Family Practice Program Office of Admissions and Student Affairs Room 293 School of Medicine University of Pennsylvania Philadelphia, Pennsylvania 19104
Objectives	To attract more young physicians into the area of comprehensive care and family medicine. To correct the maldistribution in the number and type of physicians and, thereby, in the services available to the public.
Description	The Comprehensive Care Program offers three broad categories of experience. *Course Work.* From the large number of courses available within the present curriculum, certain clinical specialty courses are particularly appropriate for students selecting this career. Additional courses have been designed to offer the student a firm base in emergency care and in the social and behavioral sciences. In addition, the University program in health economics and health care administration is available to interested students. *Preceptorships.* The Family Practice Program maintains an index of physicians who are interested in providing students with preceptorial experience. Several models of practice may be studied including: (1) solo private practice in either general medicine or specialty medicine; (2) small group practice; and (3) large multi-specialty group practice. *Family Practice Clerkships.* Students may elect a clerkship experience in a model family practice center. (The School of Medicine has established relationships with a few selected centers.) Within this setting, the student is able to study the advantages of the

team approach to health care delivery. Also, family practice centers established in rural or urban areas offer the student an insight into the operation of an emerging pattern of care.

Title:	School of Medicine
Location:	University of Minnesota
Sponsors:	Information not available
Funding:	Information not available
Size:	24 students per class 25 full-time faculty 18 volunteer faculty
Contact Personnel:	R. E. Carter, Dean University of Minnesota School of Medicine 2205 East 5th Street Duluth, Minnesota 55812
Objectives:	To increase total number of physicians in Minnesota. To increase the potential number of family practice/general medicine physicians. To increase the probability that graduates will establish practice in the rural, semi-rural, and semi-urban areas of the northern tri-state region consisting of northern Minnesota, northern Wisconsin, and the upper peninsula of Michigan.
Description:	The three basic curricular goals of the School of Medicine are: Maximum integration between various disciplinary materials. Small group/seminar teaching to take advantage of the small class size. Reinforcement of basic science learning through full use of the convenient and abundant clinical material. Systems biology teaching is emphasized during the first and second years, stressing normal structure and functions in the first and abnormalities in the second. Students will be exposed to the basic sciences, behavioral sciences, and clinical medicine. Successful completion of these studies will prepare each student for competitive entry into the final clinical phase of any United States medical school and for guaranteed transfer to the University of Minnesota Medical School at Minneapolis for completion of all degree requirements. Various programs have been implemented by the School of Medicine to serve established health care delivery needs of the northern tri-state region. Four of these offerings are noted below. *Native Americans into Medicine* Project NAM is the coordinate activity of three campuses — the

University of Minnesota at Duluth, the University of Minnesota at Morris, and Bemidji State College. The purpose of the NAM program is to create a pool of qualified American Indians who will enter various stages of health occupations education.

Project NAM exposes its Indian students to the health care delivery system, giving them individualized experience and encouragement in medicine. The new University of Minnesota School of Medicine at Duluth is prepared to enroll Native American students who qualify for special minority student admission.

Community Health Education Planning (C.H.E.C.)

The Community Health Education Planning Program is designed to develop a plan for an Area Health Education Center. This Community Health Education Center is viewed as a part of the larger Health Sciences Center recommended by the Commission for the Duluth-Superior area.

Provisions of the program emphasize the role of the community hospitals and educational institutions in conducting primary and continuing health provider education throughout a nine-county, two-state area.

Postgraduate Extension Education

To help meet the objectives of the University of Minnesota (Duluth) School of Medicine in emphasizing preparation of rural physicians in family practice, appropriate residency and postgraduate training programs are being planned. Support for the graduate in his location of practice and continued reinforcement of his initial attitudes and learning behavior will be the objective of these programs.

Educational Program Involving Consumers (EPIC)

The 1973 program in the education of consumers of health care services is the third in a yearly effort to provide the consumer of health care services with a voice in the decision-making process and a measure of self-determination within the health care system. The preceding years' programs have involved the education of disenfranchised consumers of lower socioeconomic backgrounds for participation within the health care decision-making structure.

Title:	WAMI Program (Washington, Alaska, Montana, Idaho)
Location:	University of Washington
Sponsor:	Bureau of Health Manpower Education The Commonwealth Fund of New York City
Funding:	Information not available
Size:	39 students in university phase 121 students in community phase 23 full-time faculty

Contact Personnel: Dr. M. Roy Schwarz, Director
WAMI Program
School of Medicine
University of Washington
Seattle, Washington 98195

Objectives: To increase medical school enrollment in the four states.

To add to the number of physicians and correct the uneven distribution in the region.

To contain the cost of medical education by capitalizing on existing facilities.

To provide educational experience in non-metropolitan communities.

To increase the flow of knowledge between community practitioners and the University.

Description: To provide a broader range of educational opportunities and a better understanding of medical career opportunities, the University of Washington embarked upon an experiment in decentralized medical education in 1969. The WAMI Program, as it is called, allows students the option of completing their initial medical education at any one of the state universities cooperating in the program: the University of Alaska, the University of Idaho, Montana State University, and Washington State University. Following this exposure, all students return to the School of Medicine at the University of Washington for the remaining portion of the basic curriculum. Once this has been completed, students can receive a portion of their clinical training in communities within any of the four cooperating states. Under the supervision of practicing physicians, students can pursue family medicine, obstetrics and gynecology, internal medicine, or pediatrics.

Title: Recruitment and Retention of Educationally Disadvantaged Students

Location: University of California

Sponsors: National Institutes of Health
State of California
University of California

Funding: $90,000 per year
(A reduction is expected for 1973-74.)

Size: 15 students per year
4 faculty

Contact Personnel: Dr. Harold J. Simon, Associate Dean
Office of Student Affairs
School of Medicine
University of California, San Diego
La Jolla, California 92037

Objectives:	To enhance the UCSD School of Medicine's ability to recruit and retain intellectually qualified and highly motivated students who, because of academic deficiencies resulting from socioeconomic limitations, may not consider medicine a realistic career goal.
Description:	The School of Medicine Recruitment and Admissions Committee has developed and is testing criteria to be used in addition to those commonly used when considering applicants from socioeconomically disadvantaged backgrounds. Relatively less emphasis is placed upon the usual cognitive parameters, such as medical college admissions test results and grade-point averages, and more emphasis is placed on twenty-four "predictive variables." The retention of minority medical students is accomplished through a tutorial service dealing with individual deficits at three levels of need: (1) acquisition of learning skills and information gathering and selection techniques; (2) information gathering and selectivity by students; and (3) identification, segregation, and elaboration of fundamental concepts in the material presented to students. In the evolution of the tutorial program, emphasis has moved away from attempts to impart rudimentary learning skills and habits toward a focus on concepts and curriculum content. Tutors are experts in the area of study and are required to attend lectures as part of their charge. Each tutor works with two students. During the summer tutorial program, students direct themselves to an area of weakness, such as physiology.
Additional Information:	The tutorial program has been and continues to be highly successful in the first year of medical school. Students, tutors, and faculty agree that it has helped each student to maximize his potential. More than any other factor, the program has made it possible for most minority students to take the entire first year in sequence, and to maintain the pace typical to the rest of the class.

Title:	Project Black Awareness
Location:	University of Alabama at Birmingham
Sponsor:	Office of Health Manpower Opportunity Department of Health, Education and Welfare
Funding:	$102,524 first year $103,678 second year (current)
Size:	6 staff members
Contact Personnel:	Bernard Kincaid, Director Project Black Awareness University of Alabama Room 205 Mortimer Jordan Hall P.O. Box 14 N.B.S. Birmingham, Alabama 35294

Objectives:	To make Alabama's black youths (ages 10-24) more aware of health careers, the health career training programs available in Alabama, and the health-oriented job opportunities that are projected over the next decade. To acquaint counselors and guidance personnel in the academic setting with a vast array of health career opportunities and provide them with "black-oriented" materials. To provide a health career counseling service to blacks who are outside of an academic setting. To identify black applicants qualified to attend the educational and medical institutions in Alabama that have health training programs and to work with premedical and predental students who are unable to matriculate into schools of their choice.
Description:	By using a team of health career counselors (with whom the black community can identify), Project Black Awareness hopes to facilitate the entry of more Black Americans into health career training programs. As a result of exposure in Alabama, the counselors have the capability and expertise to match capable students from the target population with a training program commensurate with their level of training and career choice. They possess the capability of identifying qualified prospective students who would not otherwise have an opportunity to seek post-secondary training.

Title:	Recruitment, Admission and Retention Program
Location:	Temple Medical School
Sponsors:	College of Medicine National Institutes of Health
Funding:	$400,691 total
Size:	56 minority students
Contact Personnel:	Charles S. Ireland, Jr., Director Kresge Hall Broad and Tioga Streets Philadelphia, Pennsylvania 19140
Objectives:	To meet the shortages of black and Puerto Rican physicians in Pennsylvania and to provide needed health care services to the black and Puerto Rican communities. To extend and expand the opportunities for minority peoples to enroll in and successfully complete a medical education, particularly in view of the lack of opportunity in past years.
Description:	Long-range efforts are made to identify potential applicants in the early undergraduate years. Recruitment, Admission and Retention Program (RAR) staff assist minority undergraduate students, their counselors, and advisors with counseling, information, course selection, course scheduling, and other guidance

services as a means of increasing student interest in and preparation for medicine as a realistic goal. Through relationships with campus offices, departments, and student groups, RAR staff also develop resources which motivate and better inform students who have the potential to become physicians.

In terms of short-range efforts, RAR staff work closely with college juniors and seniors, informing them about the advantages of medical education opportunities at Temple. These students are identified from a wide variety of sources.

Student support services assume several forms, all of which seek to maximize student academic performance to its highest possible level during the term of medical education at Temple. A summer prep program is offered to entering minority freshmen to acquaint them with first-year courses, faculty, the students, the school setting, and study techniques.

The counseling component of the RAR program provides a range of services to support all enrolled students during the term of their medical education. Counseling services relate to the personal, financial, social, cultural, and the academic dimensions of student life beginning at the point of admissions through to the completion of all requirements for the degree. The goal of the counseling component is to aid the student in developing a sufficient self-understanding and appropriate perceptions of the medical school so that he or she may navigate effectively toward attaining the objective of becoming a physician.

The academic services of the counseling component are responsible for bridging any communication gaps that may occur between faculty and students.

Title:	Continuing Education Project
Location:	University of New Mexico
Sponsors:	University of New Mexico School of Medicine Department of Psychiatry National Institute of Mental Health
Funding:	$43,200 total
Size:	10-50 workshop participants in each program Variable number of faculty
Contact Personnel:	Jerome Levy, Program Director Continuing Education in Mental Health 930 Stanford, N.E. Albuquerque, New Mexico 87106
Objectives:	To respond to the shortage of trained workers in the mental health field. To develop human resources to more adequately meet the mental health needs of the people of New Mexico.

Description: This program offers a strong, ongoing program in continuing mental health education for "caregivers" in a multitude of professions.

The caregivers themselves identified the mental health problems they encounter. Then, using existing resources, programs were developed to find new ways of solving these problems.

Some of the programs have been held on the University of New Mexico campus, and have included such topics as:

Techniques of Working with People in Groups
Behavior Modification
Principles of Community Organization
Health Information Systems
Serving a Multi-ethnic Population

Follow-up activities to large statewide institutes are held all over the state. Additional caregivers of each region are offered educational opportunities covering the same topics. Thus, greater numbers of caregivers are offered an opportunity to participate in these educational experiences, which are held in or near their home communities.

This makes the entire UNM program truly a continuing process. The "one-shot" conference is minimized; sequential and ongoing programs are maximized.

Title: Community Medicine Rotation

Location: Ohio State University

Sponsors: Federal government
State of Ohio

Funding: Information not available

Size: 18 medical students per month
6 full-time faculty
3 part-time faculty

Contact Personnel: Franklin R. Banks, Coordinator
Community Medicine Rotation
Department of Preventive Medicine
Division of Community Health
Ohio State University
410 West 10th Avenue
Columbus, Ohio 43210

Objective: To afford the student an opportunity to spend a minimum of one month, full-time, at a location away from the College of Medicine to participate in and study in depth a selected aspect of the community health system.

Description: The Community Medicine Rotation requires that each medical student at Ohio State University study a selected aspect of the

community health care delivery system. Students are encouraged to examine those aspects of this system which are of particular interest to them; specifically, the primary health care delivery system; environmental health service; health manpower; preventive and developmental programs for children; access to community health services; and areawide comprehensive health planning agencies.

The hallmark of the Community Medicine Rotation is an individualization of the student assignment that is congruent with the student's interest and educational needs. A student may serve in an established community health program, conduct a study of his own design, work with a physician or other individual involved in the health care delivery system, or devise an innovative program that relates closely to some aspect of community health. The manner in which the student conceives and carries out his activities and their relationship to the health system defines relevance to community health.

Title:	Pennsylvania Urban Health Services Program (Penn-Urb)
Location:	University of Pennsylvania
Sponsor:	University of Pennsylvania
Funding:	Program not yet operational
Size:	Not established at present
Contact Personnel:	Patrick B. Storey, M.D. Graduate Hospital of the University of Pennsylvania 19th and Lombard Streets Philadelphia, Pennsylvania 19146
Objective:	To give health care students the opportunity to observe and use a model of comprehensive health care delivery and incorporate some of its principles in their later practice.
Description:	The Penn-Urb program for delivery of health care is housed at the Graduate Hospital of the University of Pennsylvania. This program is to be initiated around September of 1973 for delivering prepaid comprehensive care to a geographically defined urban population of broad socioeconomic diversity, including both inpatient and outpatient care. Many aspects of this system of delivery of care will be part of the education at The Graduate Hospital.

Title:	Division of General Medicine
Location:	George Washington University
Sponsor:	Special Project Grant — National Institutes of Health
Funding:	$358,000 income derived from projects $258,000 from George Washington University

Size:	Information not available
Contact Personnel:	Thomas E. Piemme Division of General Medicine The George Washington University Medical Center 2150 Pennsylvania Avenue, N.W. Washington, D.C. 20037
Objectives:	To offer a model for the education of students in an ideal health care system consistent with national priorities and appropriate to the next two decades. To provide a working laboratory for health services research. To develop innovative programs in health services delivery.
Description:	EDUCATIONAL PROGRAMS *Ambulatory Care.* The full-time staff and 23 part-time staff are responsible for undergraduate education in ambulatory health care. The junior student spends the equivalent of 10 of his 52 weeks in this environment. Four full weeks are spent in the Community Care Center; two weeks in the Emergency Room. During the entire three-month rotation through Medicine, one-half day each week is spent in the Community Care Center. With the addition of a psychiatrist and pediatrician to the Division, and given the implementation of the Health Maintenance Organization, the ambulatory experience will evolve from an internal medicine thrust to a concerted effort in training for Family Medicine. *Introduction to Clinical Medicine.* The Division took the lead in converting twelve clincial courses in the sophomore year to an integrated course in principles of clinical medicine. The Division is directly responsible for almost 40 percent of this critical endeavor and coordinates all participation by the Department of Medicine. Further, Division members assume the large measure of administration of the course through an interdisciplinary committee. This course represents the entire curriculum for the second half of the sophomore year. *Physician's Assistant Training.* The Division of General Medicine undertook the institution and coordination of a Physician's Assistant training program. This effort began with a class of fifteen to twenty-five students and is a major educational component of the Medical Center. The program has the support of the entire faculty. *Elective Offerings.* Elective programs in management of drug abuse, emergency care, and independent study in problems of health care delivery are offered by the Division to sophomore and to senior students. Eight students have spent a minimum of two full months in these elective programs during each of the past two years.

Inpatient Medicine. Members of the Division participate fully in both undergraduate and graduate teaching in the inpatient environment with other members of the Department of Medicine. Each faculty member spends two months of the year attending the hospital wards. The inpatient clerkship is coordinated by one of the members of the Division.

RESEARCH PROGRAMS

Research in Health Care Delivery. Studies have been, and continue to be, conducted in systems analysis of health delivery.

SERVICE PROGRAMS

Community Care Center. This unit has been providing episodic specialty health care in a traditional manner. In mid-1970 specialty clinics were eliminated, an appointment system was established, and a team health concept was instituted with comprehensive services now targeted to a defined geographic population within the District (Area 9).

Emergency Room. The Division assumed responsibility for direction of the Emergency Room in April 1970. Physician's assistants were introduced to the system in an effective manner and proper cost accounting was instituted. The Emergency Room is one of only two in the city that does not close to fire department ambulances. The Emergency Room was recently acclaimed the best in the Metropolitan Area by the Health Facilities Planning Council.

Home Care. The Division reactivated a grant from the Stewart Trust Fund for the provision of home care and transportation services to the chronically ill, especially persons with cancer. This is now provided as a service to patients of the entire clinical faculty.

Inpatient Services. Members of the Division now maintain an active inpatient service, providing continuity of care for persons seen in the Emergency Room and Community Care Center.

Narcotic Treatment Program. The Division has established an addiction treatment program for forty young drug abusers from the geographic area immediately around the university.

Health Maintenance Organization. The Division is now preparing to develop a pilot prepaid health delivery program for 5,000 persons from the Area 9 community. The first 2,000 to be enrolled are Medicaid eligible subscribers. This will allow implementation within the ambulatory setting of a "primary care" or "family medicine" training program.

Title: I. Physician Assistant Training Program
II. Medical Student Clerkships in Health Services Administration

Location: The Johns Hopkins Hospital

Sponsors: School of Health Services
East Baltimore Community Corporation

Funding: $3,000,000 total for Physician Assistant Training Program
$500,000 per year for Medical Student Clerkships

Size: 2 physician assistants
1 opthamology technician
6 medical students
2 preceptors
4 faculty

Contact Personnel: Dr. Archie Golden, Director
Health Associates Program
The Johns Hopkins Hospital
1031 Asquith Street
Baltimore, Maryland 21202

I. Physician Assistant Training Program

Objectives: To prepare nurses or ex-military medical technicians to provide some health services usually performed by a physician in the care of ill and healthy patients.

To promote the most appropriate use of health care manpower by using physician substitutes where feasible.

Description: The training program for physician assistants is a one-year clinical clerkship consisting of seminars, lectures, and supervised clinical experience within the University Hospital Outpatient Department. The curriculum is similar to that of a Junior Medical Student. It includes:

Medicine	Pediatrics
Surgery	Dermatology
Obstetrics & Gynecology	Social Service

The second year is a preceptorship with a plan physician. It includes weekly teaching conferences and weekly chart reviews. During this period, students see well and sick patients in the East Baltimore Medical Program Clinic and have their own panel of patients.

II. Medical Student Clerkships

Objective: To introduce medical students to the concepts of organized health care delivery systems and to the concept of social accountability of providers of health care.

Description: The clerkship for medical students is designed to make them aware of a health care delivery system model: Group Practice Prepayment. The preclinical and clinical students take part in the administrative activities of the Medical Group as well as in the plan. Each student is asked to report on some aspect of the plan operation during his six week clerkship. Titles of past reports include:

Comparison of Training Programs for Community Outreach Workers

Epidemiology of Asthma in the Enrolled Population Comparing Housing Project Residents to Non-Residents
Quality Assurance for Hypertension
Emergency Service for the H.M.O.
Quality Assurance in the Care of Anemia Patients
Mental Health Services for Low-Income Members of an H.M.O.
Community Participation in a Neighborhood Health Center

Title:	Millersburg Ambulatory Care Center
Location:	Millersburg, Pennsylvania
Sponsors:	The Pennsylvania State University Frederick Trust of Millersburg Hill-Burton Funds
Funding:	$1,000,000
Size:	Program not yet in operation
Contact Personnel:	Dr. Thomas L. Leaman, Chairman Family and Community Medicine College of Medicine The Milton S. Hershey Medical Center The Pennsylvania State University Hershey, Pennsylvania 17033
Objectives:	To provide comprehensive, continuing care to the people of the Millersburg vicinity. To serve as a teaching arm of the College of Medicine. To provide an opportunity for research in health care delivery.
Description:	Tentative plans call for the center to have examining rooms for four physicians, clinical laboratories, diagnostic x-ray facilities, and a small pharmacy. Community health education in maternal and child health, nutrition, and chronic illnesses will be offered and emergency care will be provided twenty-four hours a day. A physician from the community will move into the unit with a faculty appointment in family and community medicine; other physicians will be invited to move into the unit. The Medical Center will furnish a full-time faculty member in residence. Physicians in other medical specialties at the Medical Center will visit the Millersburg unit for regularly scheduled professional consultation. These physicians will be aided by senior medical students, who will spend six to twelve weeks at the unit; family-practice residents, who will spend at least three months in the unit; and undergraduate nursing students and master's degree in nursing candidates, who plan careers as family health specialists.

Title:	Cooperative Michigan Primary Care Preceptor Program
Location:	University of Michigan Michigan State University Wayne State University
Sponsor:	Bureau of Health Manpower
Funding:	$471,937 per year
Size:	209 students 14 faculty 165 private physician preceptors
Contact Personnel:	Dr. Robert R. Carpenter, Director Cooperative Michigan Primary Care Preceptor Program The University of Michigan Medical Center Ann Arbor, Michigan 48104
Objectives:	To help the student understand the nature of personalized, comprehensive, continuous primary care. To provide the student with an appreciation of problems most commonly managed without hospitalization by the primary care physician. To explain what role other medical specialists, health disciplines, and community resources can play in helping the primary care physician to organize comprehensive care programs for his patients. To demonstrate the effective utilization of the community hospital by the family physician for patient care and for continuing education. To introduce the student to concepts of office management, record keeping, etc. To demonstrate to the future primary care practitioner which community affairs are directly related to health and which are not. To help the student estimate the value he personally should attach to the rewards and disadvantages of the type of primary care practice in which he works.
Description:*	These are the characteristics of the new Michigan program: A single, statewide network of primary care preceptors will be developed to provide an educational resource available to all Michigan medical students. Preceptors will be generalists, internists, and pediatricians, with practice largely devoted to primary health care services.

*From "The Cooperative Michigan Primary Care Preceptor Program," *Michigan Medicine*, January 1973.

Students may choose from a broad range of geographic settings and a wide variety of practice patterns and reimbursement systems, from solo to prepaid groups.

Individual preceptorships will vary from four to twelve or more weeks.

Formal instruction will be provided for the community physician-teachers, including program goals and objectives, educational techniques and skills. The program calls for preceptors in groups of fifty to complete two training sequences, one prior to any student assignment and another midway through the physicians' first interaction with students.

Two specific types of educational experiences for the students will be offered; one providing primary observation for students in their first two years of medical school; the second emphasizing participation for advanced students with more prior patient care training.

Students will submit a list of their preferred locations and will be matched randomly by computer with the preceptorship most closely meeting their choices.

Counseling systems will be developed for students at each of the medical schools providing advice and information about careers in primary care. Practicing physicians will assist with this service.

Title:	Program in Intercultural Medicine and Psychiatry
Location:	University of Chicago Yale University
Sponsors:	Department of Health, Education and Welfare
Funding:	$20,000 per year
Size:	59 first-year medical students 2 faculty
Contact Personnel:	Dr. Chase P. Kimball, Director Programs in Intercultural Medicine The University of Chicago Department of Psychiatry 950 East 59th Street Chicago, Illinois 60637
Objectives:	To provide the student with an opportunity to observe the delivery of health care. To expose the student to the patient in a community health center. To introduce the student to disease as it exists in a community. To teach interview and examination techniques.

Description:	The program is an introductory clerkship in intracultural medicine. The first phase consists of clinical experience in the hospital of a Navajo Indian reservation. During the second phase of the program, each student is challenged to design and execute a study dealing with the interrelationships of environment, culture, and disease.
Additional Information:	This program was originated at Yale University in 1968 and has been met enthusiastically by students ever since; many return to the Southwest to work. The program inspired one portion of the Yale Alumni Program to focus on the current problems of the American Indians.

Title:	Department of Behavioral Science
Location:	The Pennsylvania State University
Sponsors:	The Pennsylvania State University National Institute of Mental Health Department of Health, Education and Welfare Social and Rehabilitative Services National Fund for Medical Education Pennsylvania Department of Justice Pennsylvania Department of Welfare
Funding:	$366,000 for 1972-73
Size:	155 students 10 faculty
Contact Personnel:	Dr. Evan G. Pattishall, Chairman Department of Behavioral Science College of Medicine The Milton S. Hershey Medical Center The Pennsylvania State University Hershey, Pennsylvania 17033
Objectives:	To extend the scientific orientation of medicine into the field of human behavior at the individual, group, and collective levels of analysis. To identify psychological, sociocultural, and biological factors and their interaction as they relate to the disease process, the prevention of disease, and the enhancement of health. To develop skill in identifying behaviors associated with specific diseases and disease systems throughout medicine. To recognize the ways in which the physician's own personality and attitudes affect his interest in and reaction to various diseases, patients, and medical procedures. To recognize the applicability of research methodology in observing, validating, interpreting, and predicting human behavior.

Description:

Although the behavioral science teaching program extends over the four years of the medical curriculum, the major required courses are completed in the first and second years.

A first and second year multidisciplinary course in human behavior integrates the biological, psychological, and social sciences basic to all fields of medicine.

The first-year required courses have evolved as a result of experience with a series of six multiple tracks. The most successful and relevant units of these tracks have been integrated into three courses of twenty-two hours each. "The Brain and Behavior" deals with neural correlates of eating and drinking, emotion, sleep and arousal, memory, language ability, and the influence of environment on neural control mechanisms during initial developmental periods. "Low I.Q. and Learning" deals with behavior and genetics, I.Q., retardation, and learning principles in the practice of medicine. "Patient Roles and Illness" deals with models of the doctor-patient relationship, patient roles in acute and chronic illnesses, hospitalization, and the influence of family, culture, and society.

The second-year required course in behavioral science requires thirty-five hours and is entitled, "The Biological, Behavioral, Economic, and Ecological Foundations of Health Care Systems."

Electives for in-depth study include such seminars as: "Medical Statistics and Research Design," "Health, Illness, and Culture," "Theories of Personality," "Mechanisms of Biofeedback," and "Behavioral and Physiological Correlates of Stress."

Other behavioral science teaching programs involve regular teaching in the Clinical Correlation Conferences; conjoint teaching with other departments, such as the Department of Family and Community Medicine, the Department of Humanities, the Department of Pathology; and participation in the teaching conferences of other clinical departments. A third-year teaching program is being developed which involves a continuing teaching relationship with students as they rotate through selected clinical specialties. It attempts to branch into clinical medicine and to reinforce behavioral science concepts taught during the first two years. A fourth-year program allows students to elect special research projects or seminars under the supervision of senior members of the behavioral science faculty.

Additional Information:

The Department of Behavioral Science has played the major role in the College for the developing of self-instructional units in the curriculum. It has assisted several other departments in the development of their own individualized instruction programs, and this past year sponsored a two-day self-instruction workshop for all medical center faculty.

The department has effectively combined the use of self-instruction units with small-group discussions, prepared a special handbook to replace the fact-giving lecture, developed special videotape demonstrations of behavioral components described in the handbook, and combined these with small-group

teacher-student discussions. The second term course has been almost completely converted to this same teaching/learning format.

Title:	Master of Science in Community Health
Location:	University of Rochester School of Medicine and Dentistry
Sponsors:	Department of Preventive Medicine and Community Health Department of Health, Education and Welfare (HEW)
Funding:	$93,574 from HEW grants Additional support from University of Rochester funds
Size:	9 full-time students 5 part-time students 10 full-time faculty 9 part-time faculty
Contact Personnel:	Dr. James G. Zimmer Department of Preventive Medicine and Community Health School of Medicine and Dentistry University of Rochester 260 Crittendon Boulevard Rochester, New York 14642
Objectives:	To meet the need for appropriately trained planners, researchers, administrators, and educators in all aspects of health care delivery. To train physicians and other health-related professionals in community and regional health-care planning, in health services research and evaluation, and in the broader aspects of medical care administration, with emphasis on comprehensive health-care delivery.
Description:	The two-year Master of Science degree program emphasizes active involvement in health-care programs and their evaluation, and research in medical care. Required courses in the Department of Preventive Medicine and Community Health include: Epidemiology Biostatistics Health Care Administration Medical Sociology Health Care Delivery System Planning There is a wide variety of graduate electives available in other departments at the University in economics, sociology, business administration, systems analysis, political science, and in other areas of the social and behavioral sciences. Two projects, with written reports, are required of each student. One is an analytic and evaluative study of one or more

health care delivery systems in which the student is actually involved; the other is a research project in medical care, using descriptive and analytic epidemiologic techniques. Emphasis is placed on interdepartmental and interdisciplinary teaching, consultation, and preceptorship throughout the program; optimum flexibility to suit individual student goals is maintained.

While priority is given to graduate physicians with a career interest in some area of community health or medical care, application is also possible for other health-related professionals, for medical students at the University of Rochester in the combined M.D./M.S. program, and for other persons with a special interest and experience in the health field.

Title:	Department of Community Medicine
Location:	University of Massachusetts Medical School
Sponsors:	University of Massachusetts Medical School Worcester District Medical Society
Funding:	$100,000 to $200,000
Size:	64 students 5 faculty
Contact Personnel:	Hugh S. Fulmer, M.D., Professor and Chairman Department of Community Medicine University of Massachusetts Medical School 119 Belmont Street Worcester, Massachusetts 01604
Objectives:	To develop, along with the traditional responsibility for individual patients, the medical student's awareness of his general responsibility for his community. To give students the knowledge, skills, attitudes, and experience necessary to assume such responsibility. To teach students to recognize and quantify the current major changes in health problems and needs and their responsibilities in guiding such changes.
Description:	The first year of the Community Medicine Program is devoted to introductory seminars and a three-week clerkship, during which the students live, work, and study in communities throughout Massachusetts. Following this community exposure, the students prepare reports and present recommendations during seminars in which they share and compare their experiences. In the second academic year, the principles of epidemiology and medical care are taught and discussed in the classroom, utilizing the experiences of the first-year community clerkships for much of the subject matter. A practical problem-solving approach is emphasized.

The six-week field assignment in the third year builds upon the previous experiences, knowledge, attitudes, and skills but is more clinically oriented. Each student is expected to conduct a health study of an entire community, to apply the scientific approach to the study of a particular disease problem in the community, and to learn about health problems of individuals and families in the context of the community. This is done with the assistance of a preceptor and the guidance of faculty.

Electives comprise the final six months of the combined third and fourth year. The Medical School is proposing the development of a fourth-year elective preceptorship with a family physician. The school is building a prototype rural delivery system and residency program. The rural model family practice unit will be part of a network of integrated residency training programs in Family Practice that will be developed across the state, reflecting the various urban and rural situations in Massachusetts.

Title:	A course entitled "Toward A Humanistic Medicine"
Location:	University of Utah
Sponsor:	College of Medicine
Funding:	$2,750, provided by the Dean's Office
Size:	16-20 students per section 1 faculty and several guest faculty members
Contact Personnel:	Dr. Edward J. Hershgold, Associate Professor Department of Internal Medicine The University of Utah Medical Center Salt Lake City, Utah 84112
Objectives:	To develop a systematic awareness of and concern for the individual in the physician-patient relationship. To develop perceptual and communications skills necessary for understanding the patient-physician interaction and the social setting in which health care occurs. To have each student understand how such skills will aid him in eliciting relevant information from the patient, identifying certain problems, formulating a plan for treatment, evaluating what he has accomplished, and developing competence and responsibility in medical problem solving. To train each student to articulate his own subjective responses to pain, death and dying, error or threat of error, criticism, sexuality, professional status, and unsolved clinical problems. To make sure students understand the threat to human values implicit in the technology of medicine and are able to identify and articulate questions of concern for patient dignity in the care system.

Description: The major educational tools for this course will be experimental and will include awareness exercises, examination of actual physician-patient relationships, role reversals in which students act in the patient's role in a drama setting, listening to patients discuss their thoughts and feelings following their interview, selected readings, and audio and videotaped interactions. It is emphasized that encounters between students will neither be sought nor discouraged; the instructor will examine the encounter between physician and patient.

Some typical topics might be:

Death and Dying
The Physician's Response to Patient Pain
Human Values and the Technology of Modern Medicine
Patient Cultures and Physician Biases
Response of the Physician to Uncertainty and Error
Professional Status and Criticism
Sexuality and Physician Response

Title: Office of Continuing Medical Education, Program for Basic and Intermediate Units

Location: Rutgers Medical School

Sponsor: College of Medicine and Dentistry of New Jersey

Funding: $77,000 for 1972-73

Size: At time of this writing, the program is not yet in operation.

Contact Personnel: Dr. James A. Rogers, Coordinator
Office of Continuing Medical Education
College of Medicine and Dentistry
Piscataway, New Jersey 08854

Objectives: To improve the health and well-being of the individual patient and the public by providing continuing medical education at each community hospital.

To coordinate continuing medical education programs on a statewide basis to prevent duplication.

To serve as a resource for information on continuing medical education in New Jersey.

Description: The Office of Continuing Medical Education was established to coordinate and supervise a program for "basic" and "intermediate" medical units. An explanation of these units appeared in the February 1973 issue of *The Journal of The Medical Society of New Jersey*:

> *The basic unit* in the plan should be a community hospital of 250 to 300 beds or more, or smaller hospitals in close proximity so that resources can be shared. Each unit needs a director of medical education to organize and to operate the educational programs. A faculty will be formed consisting of

knowledgeable and interested physicians on the medical staff. *The basic unit* must include topics of broad interest. *Needs* as demonstrated by the medical audit must be stressed. Advances in basic sciences as related to disease and advances in diagnosis and treatment, as well as other problems of interest to all members of the staff, must be included. Educational activities of the basic unit should be primarily intramural, and the educational endeavors must be open to all physicians.

In conjunction with neighboring basic units (hospitals) in the area, and in an extramural fashion, the directors of medical education should jointly arrange curricula of interest for the physicians of the entire community. These efforts should not interfere with or cause duplication of intramural programs.

The intermediate unit in the plan will involve all of the specialty societies and the voluntary health organization, along with the Academy of Medicine, in arranging programs on a regional basis.

Title:	Joint Program in Health Administration — Master of Public Health (MPH)/Master of Business Administration (MBA)
Location:	Columbia University
Sponsors:	Columbia University School of Public Health Columbia University Graduate School of Business
Funding:	Information not available
Size:	45-60 students 10 faculty
Contact Personnel:	Seth B. Goldsmith, Director Graduate Program in Health Services Administration School of Public Health 600 West 168th Street New York, New York 10032
Objectives:	To socialize health administrators to the importance of health, the health system, and the broad social system. To provide for the acquisition of a theoretical, conceptual, and practical understanding of the nation's social, economic, and political systems. To ensure that the future administrator has the skills necessary to effectively represent, organize, operate, and control complex organizations.
Description:	The MPH/MBA is awarded simultaneously to individuals who complete the joint program in Health Administration. The Columbia program selectively combines the resources of the School of Public Health and the Graduate School of Business. In this program all individuals entering the Health Administration Program take a basic core of Administration and

Organization courses, and a basic core of Management Skill courses. After the core requirements are satisfied, students are obliged to select electives in an appropriate management skill area such as Operations Research, Financial Management, Industrial Relations or Organizational Behavior, and in an administrative specialty area such as Health Services Administration or Public Health Administration.

The program requires five trimesters of academic time and one additional year of residency, a total calendar time of thirty-two months. A Master's degree essay is required.

Title:	Community Health Fellowship Program
Location:	University of Colorado Medical Center
Sponsor:	Bureau of Health Manpower
Funding:	Information not available
Size:	4 students 7 faculty
Contact Personnel:	Dr. John E. Kralewski, Director Division of Health Administration University of Colorado Medical Center 4200 East Ninth Avenue Denver, Colorado 80220
Objective:	To involve pediatricians who have completed their clinical training in the planning, organization, and research of health care delivery.
Description:	The student works part time with the Denver Neighborhood Health Program or other health care delivery organizations in the Denver area to observe a health organization in operation. The student is expected to take course work leading to a Master's degree in Health Administration. The Fellowship offers $7,000, augmented by pay for the part-time work.

Title:	Health Facilities Surveyor Development Program
Location:	University of Colorado
Sponsors:	Department of Health, Education and Welfare Health Services and Mental Health Administration
Funding:	Information not available
Size:	25 attendees per session Variable number of faculty members
Contact Personnel:	Vincil L. Shively, Project Director Health Facilities Surveyor Development Program University of Colorado

1100 Fourteenth Street
Denver, Colorado 80202

Objective: To increase the skills and knowledge of surveyors to enable them to effectively survey health facilities participating in Titles XVIII and XIX with the ultimate end of improving the quality of care provided in health facilities such as hospitals, nursing homes, extended care facilities, and home health care agencies.

Description: The Health Facilities Surveyor Development Program at the University of Colorado at Denver is being conducted in ten sessions, each of four weeks' duration and forty contact hours of instruction per week.

Participants in the Program are state agency personnel and supervisors, federal agency personnel, and others interested in becoming health facilities surveyors.

The Program of Instruction is divided into three units as follows: Perspective, Survey Process, and Survey Content. Material from each unit is incorporated into the other two as appropriate, making a comprehensive and cohesive program. The subject areas are broad and the project staff has flexibility in implementing the selected subjects as well as in methodology and in instructional aids. Titles vary for the particular subjects, but the instruction as identified under the terms of the contract must be covered during the program to provide training in five major areas: the techniques of surveying health facilities, recording and documenting survey findings, consultation, programming for improvement of health facilities, and the requirements and standards of federal health care programs.

The course curriculum is further supported by programmed tours of specific areas within health care facilities.

After three weeks of instruction, the training surveyors have an opportunity to apply their newly acquired learning and skill by participating in an on-site practice survey of a health care facility. Following the survey, state and federal reviews are conducted by qualified personnel to evaluate the effectiveness of the field trips by reviewing and rating survey report forms completed by the attendees.

A Certificate of Graduation bearing the name of the University of Colorado at Denver is given to the attendees who satisfactorily complete the program. The university also grants six undergraduate and graduate credit hours to those attendees who satisfactorily complete the program and submit a research paper on a subject pertinent to the health care field.

Programs for Physician Assistants:

These programs also originated out of concerns about supplies of regular physicians. Although physician assistants probably do serve numerous purposes, such as improving health delivery efficiency, programs to prepare them would probably never have come about without the physician shortage.

Exactly half, or seven of the fourteen programs preparing physician assistants, bear the certified MEDEX trademark, a trademark that originated at the University of Washington. All MEDEX programs follow a generalized format. Those accepted to the program almost invariably have prior medical training. Most are former military corpsmen. Programs are generally of twelve months' duration, with a relatively short three-month academic phase and a nine-month experiential phase.

The MEDEX programs contrast with the other seven programs which generally require about two years of training. Four of these seven programs prepare general physician assistants, although one program requires a concentration on emergency care. The remaining three programs are more specialized in nature. Graduates become assistants to urologists, assistants to specialists in obstetrics and gynecology, and child health associates.

Title:	MEDicine EXtension—MEDEX New England
Location:	Dartmouth-Hitchcock Medical Center
Sponsor:	Dartmouth Medical School
Funding:	$25,000 per year (approximate)
Size:	24-30 students 5 full-time faculty Several part-time faculty
Contact Personnel:	B. Strauss, M.D., Director MEDEX New England P.O. Box 146 Hanover, New Hampshire 03755
Objective:	To prepare individuals with proven abilities in the medical field who, with additional training, can work as assistants to primary care physicians.
Description:	The MEDEX New England Program at the Dartmouth-Hitchcock Medical Center is divided into two phases. Phase one is three months of classroom and clinical training with heavy emphasis on medicine, psychiatry, pediatrics, surgery, medical terminology, history-taking, and physical examination. Classes are generally scheduled for eight to ten hours per day, five to six days per week, in addition to class preparation and clinical work. Nine months of clinical work in the community of the preceptor follows the classroom work. During the preceptorship, the student works under the close supervision of the preceptor physician and the MEDEX staff. The training in both phases is intensive, involves relocation, and does not permit time for outside employment.

The MEDEX, within the scope of his documented competence, implements the diagnostic conclusions, preferably by following written protocols. The MEDEX and his preceptor physician will decide what tasks the MEDEX may do, according to the experiences of the MEDEX. In general, the MEDEX will perform tasks at the discretion of the doctor.

There are no tuition charges for MEDEX-New England. Students should, however, have sufficient funds available to cover the following (figures are estimates):

Physical examination	$100.00
Medical bag and equipment	$300.00
Texts, coats, emblems, name tags	$ 75.00
Transportation in connection with program (not including actual moving expenses)	Variable
Housing expenses in Hanover (approximate)	
Single — $75/100 x 3 months	
Married — $150/200 x 3 months	
Blue Cross and Blue Shield Insurance (elective)	
Single - $20 x 12 months	$240.00
Married — $30 x 12 months	$360.00
Food, clothing, living expenses	Variable
Housing during 9 months training in field (at preceptor site)	Variable

MEDEX-New England is approved under the GI Bill for educational assistance to qualified students for the entire one-year program. There is a limited amount of financial aid (through federal scholarships, not to exceed $3000 per year for any one student) that may be made available through the program to help those students who, though qualified for selection as a Medex, are unable to defray the cost of the program. All applicants must provide a financial statement before they can be considered for selection as a Medex.

Title:	MEDicine EXtension—MEDEX North Dakota
Location:	University of North Dakota
Sponsors:	University of North Dakota School of Medicine State Medical Association Regional Medical Program U.S. Public Health Service — Indian Health Service National Institutes of Health Bureau of Health Manpower Education, Office of Special Projects
Funding:	Information not available
Size:	26 trainees in 1973 class University faculty Physician/Preceptors

Contact Personnel:	Mr. John Steining, Director MEDEX University of North Dakota 1600 University Avenue Grand Forks, North Dakota 58201
Objective:	To help relieve the physician manpower shortage and distribution problem and thereby increase the availability of medical care services.
Description:	MEDEX is a competency based educational program that differs somewhat from strictly academic projects. The MEDEX curriculum is a set of learning experiences that relate directly to tasks that will be performed by the Medex under his physician-preceptor's supervision. As competency based education, the program accepts and takes into account skills already possessed by the Medex, while assessing his ability to perform practical tasks both during and at the end of training. The foundation of the MEDEX curriculum is the vast amount of practical experience and formal course work each Medex received while in military service. The university and preceptorship phases of the program are a continuation, elaboration, refinement, and updating of past training and experience. There is both an economy of effort in this design and an economy of money already spent by taxpayers for military medicine. There is special interest in recruiting those men and women who have had independent duty training and/or experience while in the service. MEDEX is a system of deployment as well as training. MEDEX trainees in North Dakota spend the equivalent of three months in a medical school setting (didactic and clinical work) and nine months in a preceptorship with a family physician. (MEDEX is not hospital based.) At the end of training, the MEDEX graduate is hired by his physician-preceptor. Thus, job placement is assured — a built-in feature of the program.
Title:	MEDicine EXtension—MEDEX South Carolina
Location:	Medical University of South Carolina
Sponsors:	College of Allied Health Sciences College of Medicine — Department of Family Practices Bureau of Health Manpower National Institutes of Health Department of Health,Education and Welfare
Funding:	Information not available
Size:	18 students—MEDEX I 9 students—MEDEX II 15 students—MEDEX II

Contact Personnel:	Dr. Arthur C. Hutson, Director MEDEX College of Allied Health Sciences Medical University of South Carolina 80 Barre Street Charleston, South Carolina 29401
Objectives:	To relieve the physician of certain tasks that can be performed by a person trained to do them under the physician's direct supervision, thereby freeing the doctor to perform those functions for which he is uniquely qualified. To draw upon the pool of trained personnel whose skills can be enhanced and adapted to serve the civilian population as they have been serving military needs for many years.
Description:	Former military corpsmen from the Air Force, Army, Coast Guard, and Navy and civilian allied health personnel are eligible to participate in the program. The MEDEX program is divided into two phases: a university training phase and a preceptorship phase. The university training phase lasts approximately three months. It is a task-oriented combination of didactic and clinical teaching. Heavy emphasis is placed upon pediatrics, geriatrics, chronic disease, history taking, physical examination, and transition from military medicine to civilian medical practice. The preceptorship phase is nine months of additional training in the preceptor physician's office. For the first few months of his assignment, the Medex assists the physician as he learns and applies primary medical care skills under the physician's close supervision. When the physician has developed enough confidence in the Medex, he can be used in a variety of ways: screening patients to be seen by the doctor, making and screening house calls, taking emergency calls, assisting at surgery, applying and removing casts, performing laboratory work, taking histories, performing parts of physical examinations, or aiding in other tasks that do not require a physician's extensive training. All of these Medex activities extend the physician's capacity. A continuing education program is part of the preceptorship phase. Periodically, the Medex will return to the university to receive specific course work designed to give training in deficient areas and in areas where the trainee needs to develop new techniques to meet the demands of his preceptor's practice. At the end of the preceptorship, the physician preceptor will employ the Medex to aid in his practice.
Title:	MEDicine EXtension—MEDEX Pennsylvania
Location:	The Milton S. Hershey Medical Center
Sponsor:	National Institutes of Health

Funding:	$103,243 per year
Size:	15 students Medical Center faculty
Contact Personnel:	Dr. Richard D. Hasz, Co-Director MEDEX—Pennsylvania The Milton S. Hershey Medical Center The Pennsylvania State University Hershey, Pennsylvania 17033
Objective:	To train people with previous medical experience to be assistants to the primary care physician.
Description:	The program is fifteen months in duration; the first three months are spent at the Medical Center for didactic instruction, while the following twelve months are spent with a physician-preceptor. An effort is made to match each student and his preceptor. It is hoped that the physician will attend to those patient needs which only he is able to meet, while delegating time-consuming tasks to his MEDEX employee. The preceptor must support the student financially after the sixth week of the program with a stipend of $250 per month. A certificate is awarded at the completion of the program, which does not carry university credit and students are encouraged to take the national physician's assistant certification examination administered by the National Board of Medical Examiners.
Additional Information:	The MEDEX concept originated at the University of Washington in the late 1960s. MEDEX programs in other states have placed physician assistants in neighboring states. Consequently, many MEDEX programs have taken on a regional nature. This particular MEDEX program has chosen to confine itself to Pennsylvania.

Title:	MEDicine EXtension—MEDEX Utah
Location:	University of Utah
Sponsor:	Bureau of Health Manpower Education (National Institute of Health)
Funding:	$200,000 per year
Size:	15 students per year 35 full- and part-time faculty
Contact Personnel:	C. Hilmon Castle, Principal Project Investigator or William M. Wilson, Project Deputy Director Utah MEDEX Demonstration Project University of Utah Medical Center 50 North Medical Drive, Building 100 Salt Lake City, Utah 84112

Objectives

To increase the quantity and quality of primary care offered by physicians in the Intermountain Region.

To increase the availability of medical services without increasing the cost of care in rural communities.

To conduct continuing medical education at the University Medical Center and in the field for the Medex and other members of the health care delivery team.

To attract more people into the health field and more physicians into rural areas where they are urgently needed.

To provide additional opportunities for the University of Utah College of Medicine, Intermountain Regional Medical Program, and the Utah State Medical Association to be involved in the development of better health care delivery systems.

To construct, employ, and interpret an evaluative mechanism that will permit measurement of the impact of the Medex on the medical profession and on the communities which he serves as a new health professional.

Description

MEDEX Utah trains carefully selected former military medical corpsmen to work as assistants to primary care physicians in practices throughout the Intermountain Region. As presently organized the training program is bi-phasic. The first phase is didactic, three months in length, and takes place at the University of Utah Medical Center. The second is a nine-month preceptorship during which each Medex works in a community under the guidance of a physician-preceptor.

During the University didactic phase of training, emphasis is placed upon the ability to collect data. Each trainee receives instruction in taking medical histories, performing physical examinations, taking routine laboratory tests, and writing problem-oriented records and progress notes. Students are taught to recognize the signs and symptoms of diseases and health problems commonly seen in family practice (e.g., well-baby care, prenatal and periodic health examinations, upper respiratory infections, gastrointestinal disturbances, and hypertension). At the end of the didactic phase each Medex is evaluated and is expected to have attained a prescribed level of proficiency in order to advance to the preceptorship phase of training.

During the nine-month preceptorship, the Medex gains virtually all of his clinical experience. The Medex receives both individual instruction from his preceptor and practical experience as he extends the scope of his preceptor's practice. During this period, continuing education programs are created for use by the preceptor/Medex team to assist in those subject areas in which the preceptor believes additional instruction is necessary. Moreover, time is scheduled regularly for the Medex, either in a group or individually, to return to the Medical Center for instruction in those areas which are more easily taught in a university setting.

Upon successful completion of training, each Medex is certified by the Utah MEDEX Project faculty, in conjunction with the Utah State Medical Association.

Title:	MEDicine EXtension—MEDEX/Physician's Assistant Program
Location:	Howard University
Sponsors:	Bureau of Health Manpower Howard University
Funding:	$118,000 for the first year
Size:	20 students Faculty of College of Medicine
Contact Personnel:	Joseph J. Nadiry, M.D., Director MEDEX/Physician's Assistant Program College of Medicine Howard University Washington, D.C. 20001
Objectives:	Upon completion of the program, the assistant should be able to perform the following tasks under the supervision of a physician:

To approach a patient of any age group in any setting to elicit a detailed and accurate history, perform an appropriate physical examination, and record and present pertinent data in a manner meaningful to the physician.

To perform and/or assist in performance of routine laboratory and related studies as appropriate for a specific practice setting, such as the drawing of blood samples, performance of urinalyses, and the taking of electrocardiograph tracings.

To perform such routine therapeutic procedures as injections, immunizations, and the suturing and care of wounds.

To instruct and counsel patients regarding physical and mental health on matters such as diet, disease, therapy, and normal growth and development.

To assist the physician in the hospital setting by making patient rounds, recording patient progress notes, accurately and appropriately transcribing and/or executing standing orders, and compiling and recording detailed narrative case summaries.

To provide assistance in the delivery of services to patients requiring continuing care (home, nursing home, extended care facilities, etc.) including the review and monitoring of treatment and therapy plans.

To independently perform evaluative and treatment procedures in emergency situations.

To facilitate the physician's referral of appropriate patients by becoming aware of the community's various health facilities, agencies, and resources.

Description:	The Howard University MEDEX program is designed to prepare health care professionals, primarily former medical corpsmen, who are competent to perform with the physician either in private practice or in an institutional setting, urban or rural. The program is fifteen months in duration and involves the total resources of the Center for Health Sciences and other academic and administrative units in the University as needs require. A minimum number of non-former corpsmen will be admitted to the program. These candidates are required to present evidence of counter-balancing patient contact services and experiences which must have been provided under the control and supervision of a physician and in an accredited hospital.
Title:	MEDicine EXtension—MEDEX Northwest
Location:	University of Washington
Sponsor:	National Center for Health Services Research and Development, Department of Health, Education and Welfare
Funding:	$500,000 per year
Size:	42 students 8 faculty members
Contact Personnel:	William B. Cullen Deputy Director MEDEX Northwest University of Washington 444 N.E. Ravenna Boulevard Seattle, Washington 98155
Objective:	To develop a competency based educational program and a deployment system for assistants to the primary care physician.
Description:	MEDEX is a paraphysician training and deployment program which is specifically designed to respond to the shortage of primary health care manpower by placing highly trained former military medical corpsmen and women in the offices of family and general practitioners. Students train for three months at the University of Washington with faculty from the School of Medicine. Upon completion of this didactic and clinical work, students spend nine months as preceptors in the office of family physicians. At the end of the training period, graduates are hired by their preceptors.
Title:	Physician's Assistant Program
Location:	Hahnemann Medical School and College
Sponsors:	College of Allied Health Professions Hahnemann Medical College and Hospital
Funding:	$171,502 total

Size:	7 students, class of 1973 22 students, class of 1974 25 students, class of 1975
Contact Personnel:	John P. Martin, Program Director The Hahnemann Medical College and Hospital of Philadelphia College of Allied Health Professions 32 North Broad Street Philadelphia, Pennsylvania 19102
Objective:	To help alleviate the health manpower shortage that now exists in the United States by training a new category of medical paraprofessional who will work with the physician in providing primary care services.
Description:	The Hahnemann Physician's Assistant curriculum is a two-year program, leading to the Associate of Science degree. The first quarter, three months of didactic training, is devoted to teaching the students basic medical and laboratory procedures and how to take complete histories and perform physical examinations. Courses include Physical Diagnosis, Medical Terminology, History of Medicine and Medical Ethics, Interpretation of Laboratory Data, Medical Problems, The Learning Process, and Medical Records. In the second quarter of didactic training, a lecture series focuses on developing competence in solving problems related to patient care. During this quarter the student attends rounds and conferences to gain practical experience with signs and symptoms. In addition there are courses in Emergency Medicine, Clinical Correlative Laboratory Medicine, and Physical Medicine and Rehabilitation. During the first three quarters students also take courses to satisfy the liberal arts requirements for the Associate of Science degree. Beginning with the third quarter of the first year, students leave the classroom to begin their practical training. Each student selects three specialties and spends one month in each attending rounds and conferences, evaluating patients, performing diagnostic and therapeutic studies, and participating in laboratory work. The student may choose from among medical and surgical specialties, critical care medicine, radiology, pediatrics, and obstetrics and gynecology. The fourth quarter is spent in various modes of practice, exposing students to different medical environments. Students may choose from among inner-city, rural and hospital settings. The final phase of training is a preceptorship, where students develop competence in the task of assisting a specific physician who may later employ him. The students return to Hahnemann once a month for a conference with the staff. Using their practical experience, they discuss clinical problems and present cases at these sessions.

All classroom and clinical experiences during the first three quarters take place at Hahnemann using the facilities and faculty of the medical college and hospital.

Title: Physician's Assistant Program

Location: Wake Forest University

Sponsors: Department of Health, Education and Welfare
Regional medical programs
Wake Forest University

Funding: $202,680 for 1973

Size: 50 undergraduate students
8 full-time faculty

Contact Personnel: Dr. Hal T. Wilson, Medical Director
Physician's Assistant Program
Division of Allied Health Programs
The Bowman Gray School of Medicine of
Wake Forest University
Winston-Salem, North Carolina 27103

Objectives: To train students to perform a physical examination competently and record properly an accurate and detailed patient history.

To teach students routine patient diagnostic and therapeutic procedures.

To improve the student's ability to express ideas accurately, both orally and in writing, and to establish and maintain an effective rapport with patients and with other members of the health team.

To insure that each student can reliably perform specialized tasks and functions commonly utilized in the medical and surgical specialty of the student's choice.

To increase the student's understanding of medical terminology, human functions, and disease processes.

Description: The Physician's Assistant Program offers a course of study divided into three phases:

Phase I consists of courses in Anatomy and Physiology on a system basis.

Phase II, which varies from six to ten months depending upon the student's progress and specialty, is a period of intensive training and experience in the clinical sciences. Upon the successful completion of Phase I, the student may choose to concentrate his clinical training in one of five specialties: Pediatrics, Family Practice, Internal Medicine, Surgery, or Obstetrics and Gynecology.

During this period, students serve a basic clerkship in the major clinical departments. The purpose of the clerkship is to give the student an opportunity to develop his knowledge and skills in

obtaining a history, doing a physical examination, performing and interpreting laboratory and special procedures, and using various instruments and technical procedures in both diagnosis and therapy. Students also attend a regularly scheduled bi-monthly conference in general clinical medicine and participate in seminars.

Phase III, which varies from eight to twelve months, depending upon the specialty and upon the student's progress, is a period of supervised practice in the hospital, in clinics, and in private practitioner's offices. During the first part of Phase III, the student receives further intensive training in his specialty in the appropriate department of the University's Medical Center. In the next period he rotates through other hospitals and selected community health agencies. In the final period, the student takes a preceptorship in a practicing physician's office. If weaknesses in his training appear, the student returns to the Medical Center for additional preparation. In semi-monthly seminars, students present and discuss papers they have written on assigned or elected subjects.

(This information is from the Bulletin of Wake Forest University, 1972-74.)

Title:	Physician's Associate Program
Location:	Yale University
Sponsors:	Office of Special Programs, Bureau of Health Manpower
Funding:	$271,000 per year
Size:	36 students Faculty from the School of Medicine
Contact Personnel:	Dr. Paul F. Mosom, Executive Director Physician's Associate Program Department of Surgery 333 Cedar Street New Haven, Connecticut 06510
Objectives:	The Physician's Associate learns: To handle in a sophisticated manner the wide variety of emergency problems which appear in major medical centers and community hospitals. To assist in providing primary care in a variety of health care settings.
Description:	The Yale Physician's Associate Program accepts candidates with substantial medical experience and the ability to do college work. The course of study is two years in length and is divided into two parts. The didactic portion of nine months duration is given at the Yale University School of Medicine and is integrated when appropriate with the medical school curriculum.

The second portion (clinical rotations) lasts fifteen months and is analogous to clinical clerkships for medical students. During these rotations, the Physician's Associate student is involved in training and patient care to much the same extent as the medical student. He attends conferences and rounds and participates in special seminars. During these months, his clinical skills are developed and sharpened.

Didactic Courses

Animal Surgery
Basic Clinical Laboratory (Hematology, Urinalysis, Clinical Chemistry)
Electrocardiography and Cardiac Care
Emergency Treatment and Management
Epidemiology and Public Health
Ethics and Legal Aspects of Medicine
History Taking and Physical Diagnosis
Human Development (Embryology)
Human Sexuality
Integrated Anatomy, Physiology, and Biochemistry
Interviewing Techniques
Introduction to Clinical Medicine and Surgery
Pathology
Pharmacology
Psychodynamics of Human Behavior
Psychopathology
Radiology

Title:	Physician's Associate Program
Location:	The University of Oklahoma
Sponsor:	Bureau of Health Manpower Education—Office of Special Programs
Funding:	$196,000 per year
Size:	35 students 45 full-time faculty
Contact Personnel:	Dr. William D. Stanhope, Director Physician's Associate Program The University of Oklahoma Health Sciences Center 721 N.E. 14th Street Oklahoma City, Oklahoma 73190
Objective: •	As a condition for graduation each student is required: To demonstrate personal and intellectual integrity. To demonstrate an empathy and compassion for the patient and his family, for colleagues and for a variety of individuals. To demonstrate skill in solving clinical problems by: Obtaining a history and completing an initial physical examination.

Identifying problems and developing a problem list.
Gathering more data (physical, laboratory, etc.) as directed by the physician.

To demonstrate the ability to:

Judge his own professional capabilities and limitations in any given situation.
Diagnose and initiate treatment of a specified spectrum of emergency situations.
Recognize those conditions that require preventive or therapeutic medical attention.
Recognize other allied health personnel as members of the health care team and willingly utilize their talents and skills to provide appropriate health care for individual and community problems.

To develop an awareness of basic biologic mechanisms.

To fulfill the requirements for national certification.

To acquire sufficient experience and maturity to recognize the need for self-motivated learning experiences.

Description: The training period is twenty-four months in duration and is divided into two portions. The didactic portion is ten months in length and is provided at the University of Oklahoma Health Sciences Center in Oklahoma City. This portion is integrated whenever possible with various levels of the medical school curriculum.

The remaining fourteen months are devoted to clinical clerkships. Approximately half of the clinical training must be taken in the primary care disciplines, with emphasis on ambulatory care. The required in-patient medical and surgical experience is obtained at the 360-bed general hospital, Muskogee V.A. Hospital and other affiliated institutions. Clinical services in subspecialty areas are available at many public and private institutions and will be made available by other public and private institutions.

Title: Urologic Physician's Assistant Program

Location: University of Cincinnati

Sponsors: Cincinnati Medical Center Department of Urology
National Institutes of Health
Faculty, College of Medicine

Funding: $80,000-$100,000 per year

Size: 3 full-time faculty
10 part-time faculty
12 physicians

Contact Personnel: Mr. Mamdouh Abdallah, Associate Director
Urologic Physician's Assistant Program

Division of Urology
University of Cincinnati Medical Center
234 Goodman Street
Cincinnati, Ohio 45229

Objectives: To decrease the recognized shortage in manpower for the delivery of urologic health care.

To permit the urologist to devote a greater amount of time to his more complex tasks by utilizing the urologic physician's assistant to perform a broad range of medical tasks.

Description: The Urologic Physician's Assistant Program is two years in length and is divided into two parts. The nine-month didactic period is conducted within the University of Cincinnati College of Medicine, with special courses offered by the Division of Urology, and is integrated when appropriate with the medical school curriculum.

Didactic Courses

Biochemistry	Laboratory Medicine
Clinical Medicine	Microbiology
Clinical Problems	Pharmacology
Essentials of Patient Care/Laboratory	Physical Diagnosis
Gross Anatomy	Psycho-Socio-Economic Care
Histology	Radiology
Introduction to Medical Statistics	Survey of Medicine
	Urology

The second phase of training lasts fifteen months and is similar to the clinical clerkships for medical students. During this period the UPA student will learn basic patient care skills and specific urologic procedures. He will attend conferences, rounds, and participate in special seminars.

Title: Obstetrical Associate Program

Location: University of Colorado

Sponsors: Information not available

Funding: Information not available

Size: Information not available

Contact Personnel: James J. Delaney, Assistant Professor
Director Obstetrical Associate Program
Department of Obstetrics and Gynecology
School of Medicine
4200 East Ninth Avenue
Denver, Colorado 80220

Objective: To train professional physician's assistants in the field of obstetrics and office gynecology.

Description: The curriculum of the Obstetrical Associate Program consists of

six quarters of study at the University of Colorado Medical Center and affiliated hospitals. Each quarter consists of seventeen to eighteen hours of credit. In addition to clinical experience in taking care of patients, which begins immediately, formal courses are taught in the traditional basic sciences, including anatomy, physiology, biochemistry, pathology and microbiology. Clinical experience will gradually increase so that by the final quarter, students will spend almost all of their time in a clinic.

It is anticipated that students successfully completing this curriculum will receive a Bachelor of Science degree from the School of Medicine. It is recommended that students then take an additional year of practical training in the form of an internship.

Internships will be coordinated through the Department of Obstetrics and Gynecology. Upon completion of an approved internship, students will be eligible to take a licensing exam in the state.

Title: Child Health Associate Program

Location: University of Colorado Medical Center

Sponsors: United States Public Health Service — National Center for Health Services Research and Development
Commonwealth Fund
Carnegie Corporation of New York
Health, Education and Welfare — Allied Health Professions — Bureau of Health Manpower

Funding: Information not available

Size: 14 students, class of 1973-76
5 full-time faculty
40 part-time faculty (teachers and preceptors)

Contact Personnel: Virginia Moore
Assistant Professor of Pediatrics
Child Health Associate Program
University of Colorado Medical Center
4200 East Ninth Avenue, Box 2662
Denver, Colorado 80220

Objective: To train Child Health Associates to care for the health of children, both well and ill, in physicians' offices, clinics, and community health centers.

Description: The Child Health Association Program at the University of Colorado Medical Center is a three-year course. The first two years consist of theoretical and practical training in the care of children similar to that given in medical chool. The third year is an internship working with children and adolescents in various

clinical settings.

At the end of the second year of study at the Medical Center, the students are eligible to receive a Bachelor of Science in Child Health Associate degree (B.S. in CHA) from the University of Colorado. The program is also approved for a Master of Science in Child Health Associate degree (M.S. in CHA) for those students meeting requirements for admission to the Graduate School.

The internship year is an introduction to the kinds of responsibilities the prospective Child Health Associate will have after completion of the program. The Child Health Associate intern acquires supervised experience in providing health care to well and sick children in rural and urban settings such as outpatient departments, private physicians' offices, public health facilities, and a child development evaluation center.

Prerequisites for admission to the Child Health Associate Program:

General Chemistry	one year
Biology (or its equivalent)	one year
Psychology	one year

One year (6 semester or 9 quarter hours) from *one* of the following areas: English, Humanities, Sociology, Speech (communications).

Some courses from the following areas are recommended but not required: Anthropology, Child Psychology, Organic Chemistry, Spanish.

Additional Information: The Colorado Child Health Associate Act allows child health associates to diagnose, treat and prescribe medications for most pediatric illnesses seen in an ambulatory pediatric setting.

Programs for Nurses

With but one exception, the sole objective of the eleven nursing programs identified is to increase the supply of health care professionals. In the one exception, a specific objective is the prevention of illness and trauma, although the major purpose is again supply.

Of the eleven programs, six are not aimed at increasing supplies of nurses but at remedying the shortage of physicians. Each of these six programs seeks to expand the role of the nurse to include the provision of primary health care. These nurses, who will carry the varying titles of Family Nurse Practitioner, Family Health Specialist, Pediatric Nurse Practitioner or School Nurse Practitioner, are really more physician assistants than they are traditional nurses. As can be noted by the titles, most of these practitioners will be generalists while the graduates of two programs will concentrate on pediatric care.

The remaining five programs are aimed at increasing the number of nurse practitioners. Most appear to be rather traditional programs

except for two which seek to provide a mechanism for stopping in and stopping out along the career ladder. The effort of these two programs is to encourage nurses to remain in and reenter the profession.

Title:	Family Nurse Practitioner Program
Location:	University of California
Sponsor:	Robert Woods Johnson Foundation
Funding:	Information not available
Size:	55 students 8 faculty
Contact Personnel:	Mary Fenley, Project Director Family Nurse Practitioner Program Department of Family Practice School of Medicine University of California Davis, California 95616
Objectives:	To present a selected educational program that will provide the nurse with sufficient knowledge and skills so she is capable of using sound judgment in an extended role and does not need constant, direct, and immediate supervision. To prepare a family nurse practitioner to provide families with continuous, comprehensive primary health care, including the diagnosis and treatment of common illness and management of stable chronic illness.
Description:	Family Nurse Practitioners are registered nurses with at least two years of ambulatory and community nursing experience prior to entry into this program. The FNP training program consists of one calendar year (four ten-week quarters of didactic and clinical training on or near the UCD campus) plus an additional six month internship at the end of the first year. During the first year, the students are familiarized with basic human anatomy and physiology and with diagnosis in outpatient treatment of many common medical problems through lecture, seminars, and extensive individual use of the library. They are taught to do complete histories and physicals and, once gaining proficiency, to move into the care of ambulatory patients in the second half of the year. The students receive twelve to fifteen hours of supervised clinical practice a week with a home base in a family practice setting and additional clinical rotations in pediatrics, obstetrics-gynecology, and emergency medicine. After the initial year of training, each student participates in a full-time, six-month internship in a primary care setting, enabling her to gain proficiency in her skills under the supervision of physicians in settings not part of the University. During this internship, she gains understanding of her own abilities and

limitations and learns how to utilize consultation and referral to her physician preceptor and other community resources. During the internship, she is provided with continuing education from the university program as she identifies gaps in her knowledge that are important to the emerging role of Family Nurse Practitioners.

Each graduate of the program is prepared to work in primary-care settings with people of all ages. She provides care to individuals and families between that of a skilled public health nurse and of a family physician. She utilizes her nursing background and skills in counseling, guidance and health instruction; and in addition, provides a more intensive service in health assessment, diagnosis, and treatment of frequently occurring types of illness. She is responsible for clinical management in those cases which fall within her scope of competence. She may also coordinate the care given by various medical specialists as well as by other community agencies.

The program admits baccalaureate and non-baccalaureate nurses with baccalaureate and master's degree endpoints. There is a special program to train nurses living in remote rural areas in California as FNPs.

Title:	Family Nurse Practitioners
Location:	University of Pennsylvania
Sponsor:	Department of Health, Education and Welfare
Funding:	Information not available
Size:	10 full-time students admitted to each of the first two years of the project 3 full-time nurse faculty Part-time physician faculty
Contact Personnel:	Ms. Martha M. Lamberton Graduate Division School of Nursing University of Pennsylvania 205 South 34th Street Philadelphia, Pennsylvania 19104
Objective:	To educate nurses who will be equipped to work in the community in a non-hospital rural or inner-city setting and to practice alone or with one or more physicians, with access to diagnostic laboratories and consulting physicians.
Description:	In the fall of 1973 the graduate division of the School of Nursing will offer a two-year curriculum to train Family Nurse Practitioners. Participants must hold the B.S. degree in nursing and have had at least two years of experience in direct patient care. Graduates of the program will be generalists prepared to deliver primary care to the whole family, involving periodic physical

exams, immunizations, common childhood ailments, management of uncomplicated pregnancies and post-partum care, family planning counseling, and treatment of minor cases of sinusitis, burns, sprains, and lacerations.

Title:	Family Health Specialist Program — Master's Degree in Nursing
Location:	The Pennsylvania State University
Sponsors:	Department of Nursing College of Human Development Department of Family and Community Medicine College of Medicine
Funding:	Information not available
Size:	12 students admitted twice a year, beginning September 1973
Contact Personnel:	Shirley W. Ettaro, Head Family Health Specialist Program S-159 Human Development Building The Pennsylvania State University University Park, Pennsylvania 16802
Objectives:	To outline the expanded role of the nurse as a member of the health team in the delivery of comprehensive family health care. To develop a positive climate among nurses, physicians, other health workers, and consumers for the acceptance and use of the nurse in an expanded role in the delivery of comprehensive family health care. To formulate a curriculum design to prepare Family Health Specialists. To implement the Family Health Specialist Program, graduating approximately twenty-four students a year. To develop and implement evaluation procedures for the Family Health Specialist Program.
Description:	A master of nursing degree is available for the person whose career goal is specialized nursing practice in family health care. Students in this option will strengthen their background in theory and practice relating to family health care and methods of inquiry. Each student must present an acceptable clinical paper and successfully pass a comprehensive examination. A master of science degree is available for the person who desires preparation in either the functional area of education or the functional area of administration, in addition to specialization in family health care. A student in this option must complete a thesis and successfully pass a comprehensive examination. Usually it is possible for the student to complete the Family Health Specialist Program in six terms. The university calendar is divided into four terms of ten weeks each per year.

	The Department of Family and Community Medicine at the Milton S. Hershey Medical Center serves as the main clinical laboratory facility. This department, in which the central focus is family health care, provides an optimum milieu for the Family Health Specialist Program. Presently, the Department of Family and Community Medicine provides comprehensive family health care on a continuing basis to a population of over twelve thousand persons. In addition, a variety of community agencies will be utilized as clinical laboratory facilities.
Additional Information:	Applicants must meet requirements for admission to the Graduate School of the Pennsylvania State University and must be graduates of National League for Nursing accredited baccalaureate degree institutions or their equivalents. In general, a grade-point average of 2.5 on a four-point scale in the junior and senior years is required. Scores on the Graduate Record Examination, quantitative and verbal, are to be submitted. One year of professional nursing experience and letters of professional recommendation are generally required.

Title:	Pediatric Nurse Practitioner Program
Location:	University of Colorado Medical Center
Sponsors:	Division of Nursing, Department of Health, Education and Welfare
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Continuing Education Service University of Colorado School of Nursing 4200 East Ninth Avenue, #2418 Denver, Colorado 80220
Objective:	To provide an opportunity for nurses to expand their role in providing health care for children.
Description:	The focus of study is the well child in the family, school, and community. Academic and clinical study takes place at the University of Colorado Medical Center and selected health care facilities in the community of Denver. The two eight-week segments of the program are offered to the student in one of two ways: (1) a continuous sixteen-week period of study (September through January or February through May) or (2) two separate eight-week sessions (September through November and March through May). In the latter program (number 2), the interim project assignments and ongoing consultation with members of the Continuing Education faculty are included as an integral part of the program. Course: I. Evaluation of Child Health (eight weeks):

Emphasis is placed on developing the nurse's skills in taking the health history, performing physical examinations, analyzing health problems, and offering health counseling. Classroom work and practice in community child care centers are offered concurrently.

II. The Nurse's Role in Community Child Health (eight weeks):

The focus of this segment is on nursing management of common physical, psychosocial, and developmental problems of childhood with continued development of the nurse's evaluation and counseling skills. Practice in community child care setting continues. The nurse studies patterns of independent nursing practice, which affect changes in health care systems.

Credit:

Six Bureau of Class Instruction Credits (N-480-6) are earned at completion of the course requirements.

Title: Nursing Care of Children in Community Settings (Pediatric Nurse Practitioner Training Program)

Location: University of Colorado School of Nursing

Sponsor: Continuing Education Services of the University of Colorado School of Nursing

Funding: Unfunded at the present time

Size: 10 nurses per semester, 2 semesters per year

Contact Personnel: The Pediatric Nurse Practitioner Program
Continuing Education Services
University of Colorado
School of Nursing Container 2418
4200 East Ninth Avenue
Denver, Colorado 80220

Objectives: In preparation for an expanded role in ambulatory child health care the nurse will develop:

Knowledge of pediatric subject matter concerning normal physical and psycho-social growth and development, common abnormalities of childhood and their management, and optimal standards of child health care.

Skills in physical examination including the use of instruments and skills in performing screening techniques and laboratory procedures.

Ability to use communication skills effectively in obtaining health histories, counseling parents and children in matters concerning health, and in relating to members of other health disciplines.

Concepts of community health including health care systems and interrelationships among communities, families, and health care.

Description:	The intensive sixteen-week course provides an opportunity for the nurse to expand her role in providing health care for children. The focus of study is the well child in the family, the school, and the community. Academic and clinical study takes place at the University of Colorado Medical Center and selected health care facilities in Denver. The first six to eight weeks of the program emphasize development of the nurse's skills in taking health histories, performing physical examinations, analyzing health problems, and counseling. Classroom work and practice in community child care centers are offered concurrently. The focus during the remainder of the program is on nursing management of common physical, psycho-social, and developmental problems of childhood with continued development of the nurse's evaluation and counseling skills. Practice in community child care settings continues. Nurses study independent nursing practices which produce changes in health care systems.
Additional Information:	The nurse's performance is evaluated by (1) the level of participation in classroom work, (2) a demonstrated competence in community clinical settings, and (3) the course project and report. No written examinations are required. At least three formal interviews will be requested with each student by the course instructors during the sixteen-week period. A letter grade of A, B, C, etc., will be issued upon completion of the course.

Title:	The School Nurse Practitioner
Location:	University of Colorado
Sponsors:	Federal government Private contributors
Funding:	Information not available
Size:	16 students per year 25 part-time faculty
Contact Personnel:	Judith Bellaire, Assistant Professor School Nurse Practitioner Program University of Colorado Medical Center 4200 East Ninth Avenue Denver, Colorado 80220
Objectives:	To train a School Nurse Practitioner: To assume basic responsibility for identifying and managing many of the health problems of children. To deliver child care to school age children who fail to utilize other community health facilities. To perform necessary evaluative procedures such as a complete health history, a basic physical examination, and a variety of special procedures.

To assess the acuteness and severity of disease of an ill child and decide what problems he or she can handle and which ones need referral to other resources.

To provide skillful management of childhood emergencies until additional assistance is available.

To determine the presence of significant emotional disturbance in childhood and adolescence and assist in management or arrange for adequate referral.

To participate and assist in assessing and managing specific problems relating to perceptually handicapped children of school age.

To contribute significantly to the health education of pupils by applying methods designed to increase the pupil's responsibility for her own health care.

To collaborate with teachers and other school personnel, to interpret pupil health status, and to suggest appropriate management techniques.

To counsel parents regarding parent-child relationships and various emotional and health problems.

To coordinate health care plans between family, school, and community settings; to enhance the quality of child health care; and to diminish both fragmentation and duplication of services.

To take on other functions now largely neglected by all health professionals in the school setting.

Description

The School Nurse Practitioner (SNP) Program is a continuing education program for nurses. The first phase of the program is a four-month (one semester) full-time program of intensive theory and practice in child care, offering eight to ten extension division credits. Emphasis is placed on expanding the clinical skills of nurses working with children between the ages five and eighteen.

The formal course of study is offered biennially starting early fall and late winter. This phase of study is a clinically-oriented educational program and includes evaluation and management of the well child and identification of various school health problems, including care of emergency situations. The student extends her abilities in observation, growth and development, counseling, and in both inter- and intra-disciplinary communication.

In order to gather sufficient information on which to base decisions about a pupil's health status, the student becomes proficient in observing conditions and behavior in a detailed systematic fashion, including joint teacher-nurse observations in the classroom. She learns to complete an extensive physical examination using palpation, percussion, and auscultation skills. She also becomes competent in the use of other data-gathering instruments and techniques.

Considerable time is devoted to assisting the nurse with the decision-making process in order that effective, practical management programs can be developed. During this period of study, the School Nurse Practitioner student develops a greater sense of confidence and independence about her clinical competence, resulting in more significant contributions as a member of the school health team.

Following return to her own school setting, the school nurse practitioner applies her newly acquired knowledge and skills with supervision as required by physicians and other health professionals.

Additional Information: The School Nurse Practitioner Program is a new program which prepares the school nurse to provide increased and improved primary and ongoing health care to children in the school setting. Nurse practitioners are the prototype of a new role for school nurses aimed at easing the critical shortage of health manpower. The program was developed through the joint efforts of the University of Colorado Schools of Medicine and Nursing and the Denver Public Schools.

Title: Associate Degree Program — Nursing

Location: Ferris State College

Sponsor: Ferris State College

Funding: Information not available

Size: 100 students
12 faculty

Contact Personnel: Mrs. Ralph J. Sherrod, Head
Department of Nursing
East Building, Room 215
Ferris State College
Big Rapids, Michigan 49307

Objectives: To involve student nurses in the prevention of illness as well as care during illness.

To train nurses who will establish and maintain a therapeutic environment directed toward restoration of patients' abilities to the fullest possible extent.

To provide student nurses with skills and knowledge of principles through a program structured to use vocational nursing as a base.

To design programs that produce workers who meet the needs of the patients and who possess the basic knowledge and competencies on which currency of practice can be adequately maintained.

Description: This "laddered" two-year program is structured so that those who complete the first year are qualified to take the examination for licensing as a practical nurse. Licensed practical nurses who

	are graduates of other programs are admitted directly to the second year and are prepared to take the registered nurse examinations after one year in the program.
Title:	Career Options in Nursing Education (CONE)
Location:	State College of Arkansas (Conway)
Sponsors:	Department of Health, Education and Welfare Public Health Service Training Grant
Funding:	Information not available
Size:	30 students admitted each year 2 faculty added each year
Contact Personnel:	Mrs. June Garner, Project Director Career Options in Nursing Education State College of Arkansas Conway, Arkansas 72032
Objectives:	To identify components of each level of nursing education (practical nurse level, associate degree level, baccalaureate). To plan learning experiences necessary for the development of competencies at each level of practice. To provide an opportunity for nurses to change career goals by planning for a system of "stepping in and stepping out" of the program at various levels without loss of potential manpower to nursing. To evaluate each graduate as a practitioner at each level of nursing practice for a period of five years. To evaluate student nurses at the end of the elementary level, the technical level, and the professional level of preparation. To compare and evaluate student performance in the experimental program with student performance in the traditional baccalaureate program, the twenty-three practical nurse hospital-oriented programs and the seven associate degree programs in the state of Arkansas.
Description:	The CONE curriculum is a spiral curriculum. Basic concepts, skills, and attitudes are woven into the curriculum and examined again and again in an ascending spiral. It is believed that basic ideas lying at the heart of all nursing and the basic themes giving form to nursing practice are as simple as they are powerful. To use them effectively requires continual deepening of one's understanding, which comes from learning to use the ideas and themes in increasingly more complex forms. The spiral curriculum turns back on itself at higher levels. The spiral curriculum plan prepares candidates for the Bachelor of Science Degree in Nursing and provides career options at various points in the educational program: Upon successful completion of the first year the student is prepared to work as a practical nurse and is eligible to take practical nurse licensing examinations.

Upon successful completion of the second year the student is technically competent to practice, is eligible for registered nurse licensing examinations, and is qualified for an Associate Degree in Nursing.

Upon successful completion of the four years of the program, the student is eligible for the Baccalaureate Degree in Nursing, prepared for practice as a professional nurse, and qualified for graduate study in nursing.

Title	Department of Nursing
Location	Georgia State University
Sponsor	Georgia State University
Funding	$335,000+ per year
Size	300 students 28 faculty
Contact Personnel	Mrs. Evangeline B. Lane, Chairwoman Department of Nursing Georgia State University 33 Gilmer Street, S.E. Atlanta, Georgia 30303
Objectives	The purposes of the first two years of the program are to prepare nurse practitioners: To provide direct nursing care to individuals and families with common health problems under the supervision of a baccalaureate nurse graduate. To function as members of the health team in identifying and solving health problems. To seek self-actualization through intellectual curiosity, commitment to continuing education, and active participation in community affairs as responsible citizens. To obtain gainful employment and/or to continue education toward a baccalaureate degree in nursing. The purposes of the last two years of the program are to prepare nurse practitioners: To practice nursing in a variety of health care settings utilizing their increased knowledge in the behavioral, physical, and social sciences. To function in a leadership role in nursing and to be an agent of change. To provide health education and guidance to individuals and groups. To provide for continuity of health care for patients and families. To appreciate the research process.

To pursue graduate study in nursing.

Description: The curriculum includes the following courses and credit hours:

Administrative Education	5
Biology	10
Chemistry	5
English	20
Fine Arts	10
Free Electives	5
History	5
Management	5
Math	5
Microbiology	5
Nursing	93
Physical Education	4
Physics	5
Political Science	5
Psychology	10
Sociology	10
Zoology	5
Total	207

Title: Bachelor of Science in Nursing — Primary Care Practitioner

Location: The City University of New York
Herbert H. Lehman College

Sponsors: City University of New York
U.S. Public Health Service Planning Grant
Minority Center Grant
National Institutes of Mental Health, Undergraduate Psychiatric Nursing Integration Grant

Funding: Information not available

Size: 360 students
35 faculty

Contact Personnel: Claire M. Fagin, Chairman
Department of Nursing
CUNY — Herbert H. Lehman College
Bedford Park Boulevard West
Bronx, New York 10468

Objective: To provide an opportunity for the student to acquire:

A foundation in liberal and professional education to enable her to develop her potential as an individual and as a citizen.

An understanding of the social and professional significance of nursing.

Substantive knowledge in the theoretical basis of nursing.

The ability to apply the theoretical basis by:
1. Functioning independently through the use of nursing

knowledge in formulating and implementing observations, in making diagnoses, and in helping people achieve their maximum level of health.
2. Working as a member of the health team with peer professional status.
3. Using technical skills with competence and compassion.
4. Functioning as an agent for change within the health care system.

Description: The curriculum is designed sequentially to provide an orderly, coherent, and progressively more sophisticated course of study. Each of the necessary skills and the ability to solve problems, effect constructive change, give leadership, provide comprehensive nursing care, and use the interpersonal nature of the nursing process will be taught on ascending levels of complexity from the beginning through the final courses of the nursing program.

Title: Area One Vocational-Technical Nursing Program, Ladder Concept

Location: Area One Vocational-Technical School

Sponsors: State Department of Public Instruction
Federal government

Funds: Information not available

Size: 50 practical nursing students
30 associate degree nursing students
7 faculty

Contact Personnel: Mrs. Donna Story, Coordinator
Nursing Education
Area One Vocational-Technical School
P.O. Box 400
Calmar, Iowa 52132

Objectives: To enable each student:

To recognize her personal needs, abilities, and limitations.

To demonstrate knowledge and understanding of social and scientific principles.

To prepare a plan for care for a patient and his family.

To recognize and respect the patient as an individual.

To communicate in verbal and written form.

To teach conservation of health.

To give high quality nursing care.

To meet the legal requirements pertaining to the practice of nursing.

To follow the Code of Ethics for Nurses.

Description: Each student nurse completes at least one course in each of the following areas:

- Biological Science
- Normal Nutrition and Diet Modification
- Vocational, Personal, and Community Relationships
- Foundations of Nursing
- Medical-Surgical Nursing
- Human Growth and Development
- Maternal and Child Health Nursing
- Nursing Care in Special Situations

Programs for Dentists

The "new" delivery system of dental schools is the community clinic. Whether the location is a central city neighborhood, a migrant labor camp, a rural community, a hippie neighborhood or commune, a home for the aged, or a prison, the laboratory of the exemplary dental school is very likely to be removed from the dental classroom.

Although statements of the objectives of the dental schools offering these programs reveal a broad range of purposes, the sometimes explicit and more often implicit primary objective of most is practical experience for dental students, including the opportunity to treat numerous and varied patient conditions. One of these programs offers the following illustrative program description:

> Not only does the student see more patients, he also sees a broader spectrum of dental problems. Since the (clinic) draws its patient load from those areas in the community where dental problems are the greatest, the student is exposed to many types of problems and his operative experience is broadened.

This statement indicates what is in most cases the elementary principle upon which such programs are established and maintained — professional school concern for the technical competency of its graduates. This is not to question the authenticity of the other objectives of these programs, objectives which speak of bringing dentistry to disadvantaged children, of exposing dental students to the intrinsic rewards of rural and central-city practice, and, in short, as stated by the Department of Preventive and Community Dentistry at the University of Iowa, of helping "the student define his role as an informed and concerned leader in the community." It is to say, however, that the overriding concern of dental school faculty is student competency.

In addition to providing experience for students, eighteen of the thirty programs in dentistry seek to expand the delivery system of dental care through these community clinics. Sometimes the clinic is portable, with patients being served in their own settings (e.g., homes for the aged); sometimes the clinic is housed in semipermanent, neigh-

borhood facilities.

For several decades dentistry has led the health professions in the attention given to preventive modes of service. The clinical programs and several of the other programs catalogued were established to serve poverty communities because preventive needs there were the greatest; a corollary is that the opportunities for student practical experiences were also the greatest. The effort is to expand preventive dental care to large new clienteles. The basic principle is to provide students with a reality-centered experience as opposed, for example, to the treating of the children of faculty members in university hospitals.

Two other programs seek to broaden the preprofessional's experience through exposure to the varied operations of public health agencies, while two others aim to give their students broad hospital experience. Several programs consist simply of new departments of community and/or preventive dentistry. Another two programs involve externships with practicing dentists where students are exposed to the practicalities of operating traditional, private practices. Single programs involve educational programs in the public schools, experiences in mental health clinics, and pedodontic internships.

Title:	St. Anne's Home for the Aged Clinic
Location:	University of the Pacific
Sponsor:	University of the Pacific
Funding:	$15,000 for equipment
Size:	1 student 1 faculty member 1 laboratory technician
Contact Personnel:	Dr. Thomas J. Beare, Director Extramural Clinical Affairs School of Dentistry University of the Pacific 2155 Webster Street San Francisco, California 94115
Objectives:	To offer service to a group who can obtain it in no other way. To acquaint the student with methods of coping with the aged patient.
Description:	St. Anne's Home for the Aged Clinic is a one-unit operation that is confined largely to minor operative dentistry, major oral surgery, and denture remakes and refines. It provides students an excellent opportunity to acquaint themselves with aging patients; the many infirmities that beset them, particularly severe coronary problems and the means of coping with senility. It is an excellent course in geriadontics and it is

	considered very instructive by the students who assist the instructor in carrying out the necessary treatment plans. The fear of treating the aged rapidly disappears after students spend one or two sessions at the clinic.
Title:	San Francisco City and County Jails
Location:	University of the Pacific
Sponsor:	School of Dentistry
Funding:	$14,400 per year $96,000 for equipment
Size:	5 students 2 half-time faculty
Contact Personnel:	Dr. Thomas J. Beare, Director Extramural Clinical Affairs School of Dentistry University of the Pacific 2155 Webster Street San Francisco, California 94115
Objectives:	To provide students with an opportunity to see a wide variety of pathology. To provide a service to city and county jails.
Description:	The School of Dentistry has a most unusual arrangement with the City and County of San Francisco whereby the School provides the dental services at the main jail in San Francisco and will, in the near future, provide full dental services for the county jail in San Bruno. Service is the primary objective, but the clinics also provide an opportunity for students to see a wide variety of pathology.
Title:	Haight-Ashbury Free Clinic
Location:	University of the Pacific
Sponsors:	Information not available
Funding:	$1500 per month for rent and supplies
Size:	2 dental students 2 dental assistant students 1 faculty member
Contact Personnel:	Dr. Thomas J. Beare, Director Extramural Clinical Affairs School of Dentistry University of the Pacific 2155 Webster Street San Francisco, California 94115
Objectives:	To educate students to the symptoms of drug abuse.

To train students to disassociate themselves from their patients' lifestyles.

To provide dental care on an emergency basis and on a definite basis.

Description: The Haight-Ashbury Free Clinic is the School of Dentistry's first attempt at an outreach clinic in a drug-oriented community which also has a number of people who are non-drug oriented but given to a "different life style."

The program has been in operation for over three years and to date has been tremendously successful with the student body and with patients from the Haight-Ashbury area.

The Haight-Ashbury Day Clinic differs from the Haight-Ashbury Free Clinic because it is a day home for the children of the working poor. The two-chair operation takes care of the children in the nursery (ages two to five) on Fridays, and the parents of these children on Mondays. The clinic has been well received by parents and children alike.

It is an invaluable service, since those served by the clinic do not qualify for welfare or any other kind of care, yet they do not have sufficient money to afford quality care. It provides students with a fine experience in pedodontics and, since pediatricians are also with them, it also provides students considerable insight into pediatric medicine.

Title: Elk Free Clinic

Location: University of the Pacific

Sponsor: Regional Medical Programming Agency

Funding: $33,000 per year

Size: 8 students per weekend
1 faculty member

Contact Personnel: Dr. Thomas J. Beare, Director
Extramural Clinical Affairs
School of Dentistry
University of the Pacific
2155 Webster Street
San Francisco, California 94115

Objectives: To provide dental care for working poor, minorities, and retired persons of Elk, California.

To provide valuable experience for students in dealing with the dental health needs and problems of people who do not have access to regular dental facilities.

Description: The free clinic in Elk, California, is a community clinic located approximately one hundred eighty miles from San Francisco on the Mendocino Coast. It has four operatories, five units, and X-ray and prophylaxis facilities. It is operated on weekends on an entirely volunteer basis.

The clinic is unusual because the living quarters are upstairs, wives and children are welcome, and as many as fifty to sixty patients are seen each weekend.

The patients are drawn from the working poor, minorities (including American Indians), elderly people who retired to Elk on retirement salaries of $4,000 a year, and a number of patients who have physical infirmities that do not permit them to go to private dental offices. There is a busing system that permits students to pick up patients, and part of the equipment is arranged so they can be examined in a wheel chair if necessary. The clinic is a first floor operation, which makes entry and exit fairly easy.

Funds are used to reimburse the students for travel expenses and to pay the instructor $100 for the weekend.

Title:	Dental Student Participation in Neighborhood Health Centers
Location:	Howard University
Sponsors:	Information not available
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Joseph L. Henry, Dean College of Dentistry Howard University Washington, D.C. 20001
Objectives:	To sensitize dental students to the right of all citizens to thorough health care. To improve the operation of the health centers. To multiply the possibilities for rendering high quality service in the centers.
Description:	Neighborhood Health Centers permit unfragmented health care which is personalized, comprehensive, family-centered, and preventive in nature in a friendly, dignified, and accessible setting. The School of Dentistry at Howard University has instituted major revisions in its dental curriculum to prepare its graduates to deliver more dental care in settings such as Neighborhood Health Centers. The students are rotated regularly on service assignments to: The neighborhood health centers. A dental practice clinic in which the student utilizes multiple operatories (three) and multiple auxiliaries (from three to five) and case presenting rooms. The city hospital for delivery of general dentistry on an outpatient basis.

Private homes, nursing homes, and shelters for orphans and deserted children. Portable equipment is used in this program.

The time for these programs has been gained by instituting a correlated techniques course in a convertible clinic-laboratory. Laboratory techniques are taught in a clinic setting with a special manikin which inserts in the headrest position. Thus, students learn to sit down on a regular chairside stool with the manikin in a position comparable to the head position of a supine patient. This eliminates the unlearning and relearning usually necessary for students going from manikin to patient. It also permits an early introduction to patient care as part of the laboratory course. The laboratory can be converted rapidly into a regular treatment clinic by replacing the manikin insert with the conventional headrest.

Title:	Community Clinical Laboratory
Location:	University of Kentucky
Sponsors:	Division of Community Health Services Public Health Service
Funding:	Information not available
Size:	Information not available
Contact Personnel:	A. Lee Heise, Director Division of Extramural Education College of Dentistry University of Kentucky Lexington, Kentucky 40506
Objectives:	To provide an opportunity for fourth-year dental students to gain clinical experience in a community. To evaluate a mechanism by which dental students provide additional manpower for solving the unmet health needs of communities. To demonstrate the impact that a community-wide program of educating and treating patients has on the attitudes toward dental health developed by both the children and their parents. To determine the requirements for dental treatment of children in a depressed area when care is provided on an incremental basis. To gather data on the extent to which an extensive effort by a community (a combination of parent and patient education, preventive measures, and the provision of care) will reduce the prevalence of untreated disease. To evaluate the impact of such a program on the attitudes of dental students toward community health programs.

Description:	This course is designed to allow students to participate in a five-day field experience (the Community Laboratory) in a small community in Kentucky. The students explore the political, social, and demographic characteristics of the community. Attention is directed to health services provided by public agencies and the private sector of medical and dental practices. Finally, the students develop a plan for the effective delivery of dental health care to the population of the community. Eighteen lecture hours have been reduced to two hours of computer-assisted instruction. Students also complete a self-instructional manual. Each student receives a stipend of $40 (university funds) for the five days. Three faculty members are involved and the course extends over a three-month period.
Title:	Selective Enrichment Community Experiences
Location:	University of Missouri
Sponsors:	School of Dentistry University of Missouri at Kansas City
Funding:	Information not available
Contact Personnel:	Dr. Russell Sumnicht, Associate Dean School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objective:	To give first- and second-year dental students knowledge of the existence, purposes, and functioning of various community health activities.
Description:	A period of two to three weeks in length is scheduled at the end of each regular semester for selective enrichment courses. Among the experiences first- and second-year students may "select" are one or more one day assignments to individual agencies: Kansas City Health Department, Wayne Miner Neighborhood Health Center, Model Cities Neighborhood Health Center, Jackson County Public Hospital, and Kansas City Veterans' Administration Hospital. Each agency conducts a structured program designed to meet the stated program objectives.
Title:	Urban Problem-Solving Program
Location:	University of Missouri
Sponsors:	Urban Problem-Solving Grant The School of Dentistry
Funding:	Information not available
Size:	Fourth-year dental students

Director of Preventive and Community Dentistry
1 faculty member

Contact Personnel: Dr. Russell W. Sumnicht, Associate Dean
School of Dentistry
University of Missouri
650 East 25th Street
Kansas City, Missouri 64108

Objectives: To increase student understanding of the oral health needs, beliefs, and practices of disadvantaged mothers.

To give students knowledge of the organization and operation of community health clinics.

To give students experience and confidence in providing oral health education to parents.

To help meet community oral health care needs.

Description: After learning interview techniques and after completing a self-study program in poverty and its causes and effects, fourth-year students are assigned in pairs to meet with low-income mothers attending prenatal and new mother clinics conducted in the out-patient area of Kansas City General Hospital. Aided by a social worker, the dental students lead discussions with the mothers using social work interview techniques, attempting to get the mothers or mothers-to-be concerned about their own dental health and the health of their children. Slides, keyed to give illustrated answers to commonly asked questions, add a visual component to the discussions.

Title: Preventive and Community Dentistry Program

Location: Washington University, St. Louis

Sponsors: Herbert Hoover Boys' Club Dental Clinic: private contributions
St. Louis Juvenile Detention Center Clinic: fiscal offices of St. Louis
St. Louis Chronic Hospital Program: fiscal offices of St. Louis
Osage County, Missouri, Rural Program: Housing and Urban Development (federal)

Funding: Information not available

Size: Undergraduate dentistry students
2 full-time faculty
1 half-time faculty
13 participating faculty from other departments

Contact Personnel: Richard D. Morrison, Professor
Preventive and Community Dentistry
Washington University School of Dentistry
4559 Scott Avenue
St. Louis, Missouri 63110

Objectives:	To develop in the dental student a personal and professional responsibility for contemporary social and environmental problems. To involve the dental student in community dental care problems.
Description:	The program participates in teaching, research, and community service. The four-year sequential program involves: Introducing basic principles of oral health practices. Training in reading, writing, and understanding dental scientific literature. Teaching dental therapeutics, including those aspects in the mechanism of drug action that relate to preventive dentistry. Guiding the student in communicating elements of dental health education to individuals and groups. Providing some interdisciplinary interests for the dental student and a channel for their exploration, particularly in the fields of clinical anthropology, sociology, and psychology. Enabling the student to gain experience in participating in an active community dental service program.
Title:	TEAM Training
Location:	University of Missouri
Sponsors:	Federal TEAM Grant University of Missouri School of Dentistry Jackson County Public Hospital
Funding:	Information not available
Size:	50 dental students in 1972-73 Expansion will continue in 1973-74
Contact Personnel:	Dr. Russell Sumnicht or Dr. Bernerd Allmon School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objective:	To give fourth-year dental students knowledge and experience in dental service involving the use of multiple-auxiliary personnel.
Description:	Beginning in 1971, courses in behavioral science, administration and personnel management, and dental auxiliary utilization were modified to prepare dental students to serve as managers, supervisors, and participants in multiple-operatory, multiple-auxiliary, expanded-auxiliary dental practice. During their fourth year in dental school, selected dental students are assigned for periods of experience in training and management, and are placed on a clinical team, assuming supervisory positions in a TEAM dental clinic. The clinic provides care largely for

low-income persons at Jackson County Public Hospital. It is an independent clinical operation which is separate from the rest of the hospital's dental service.

Title:	Community Dentistry Program
Location:	Fairleigh Dickinson University
Sponsor:	Fairleigh Dickinson University
Funding:	Information not available
Size:	100 students 10 faculty
Contact Personnel:	Dr. Arthur Van Stewart, Chairman Department of Community and Preventive Dentistry Fairleigh Dickinson University 110 Fuller Place Hackensack, New Jersey 07601
Objectives:	To help disadvantaged people in the urban community with whom students generally have very little contact. To make students aware of the inadequacies of public and private dental treatment programs for the underprivileged. To provide students with an opportunity to help the poor. To sensitize students to the needs of poor people and encourage them to try to alleviate their problems.
Description:	The department's projects are located in inner-city suburban and rural areas of northern New Jersey. This diversity allows the students to use their skills in programs of special interest to them and fulfills the department's philosophy of prevention, maintenance, and treatment of dental disease. The program has been extended to the Leonard Johnson Day Care Center, the Hackensack Career Development Program, and the Bergen Center for Child Development. Students receive clinical credit for this volunteer work.

Title:	Community Health Experience
Location:	University of Missouri Jackson County Public Hospital
Sponsors:	Jackson County Public Hospital University of Missouri School of Dentistry
Funding:	Information not available
Size:	Third-year dental students 1 Dental faculty supervisor Jackson County Public Hospital staff members

Contact Personnel:	Dr. Bernard Allmon School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To give third-year students: Observational and working familiarity and experience with a public hospital. Working experience in selected community oral health activities. Some knowledge and understanding of the oral health needs of county jail prisoners and residents of a nursing home.
Description:	Third-year dental students are assigned to the program in groups of seven for periods of one week. Students are allowed to participate (1) in hospital activities, such as medical and surgical rounds, social service rounds, and alcohol conferences; (2) in community activities, such as oral health counseling of mothers and children in county well-child clinics, oral health education for public school children, and clinical care for patients in Jackson County Jail and residents of a large county nursing home; and (3) in multiphasic health screening of county residents.

Title:	Lowry Clinic
Location:	University of Missouri
Sponsors:	The School of Dentistry The Lowry Clinic
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Dr. Arthur Iwersen School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To give third- and fourth-year dental students some understanding of the oral health problems and needs of grade school age children from economically disadvantaged families. To give students experience in providing oral health care for such children.
Description:	Children from designated public schools in low-income areas of Kansas City, Missouri, are transported to the School of Dentistry during two half-days each week where dental students and dental hygiene students provide needed oral health care.

Title:	Leavenworth Federal Prison Assignment
Location:	Leavenworth Federal Prison
Sponsors:	The School of Dentistry, University of Missouri Leavenworth Federal Prison
Funding:	Information not available
Size:	One to two fourth-year dental students per session Prison dental staff
Contact Personnel:	Dr. Charles Schooler School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To give fourth-year dental students some understanding of the oral health problems of federal prisoners. To give students knowledge of the dental service in a federal prison. To give the students experience in providing oral health care for federal prisoners.
Description:	One or two fourth-year dental students are assigned to the prison dental service for periods of from one to a few days. The students provide oral health care for federal prisoners under supervision of the prison's dental staff.

Title:	Field Trips to Rural Iowa Communities
Location:	The University of Iowa
Sponsor:	Iowa State Health Department, Dental Division
Funding:	Information not available
Size:	4 to 5 dental students per field trip 2 faculty per trip
Contact Personnel:	Professor W. Philip Phair, D.D.S., Chairman Department of Preventive and Community Dentistry College of Dentistry The University of Iowa Iowa City, Iowa 52240
Objectives:	To apply academic knowledge of preventive and community dentistry in a practical community setting. To reach children in need of educational and preventive services in smaller communities.
Description:	During the three-day field trips, students' activities include: Spending an evening with local practitioners to discuss the problems and benefits of small town practice.

Giving dental health education talks to school assemblies.

Giving tooth-brushing demonstrations.

Examining the teeth of third, fourth, and fifth graders.

Meeting the PTA and other interested groups.

Meeting with high school students interested in careers in dentistry.

Title:	Migrant Program
Location:	The University of Iowa
Sponsors:	Public Health Service Iowa State Health Department
Funding:	Information not available
Size:	5 upper-division dental students 1 faculty member
Contact Personnel:	Dr. W. Philip Phair Department of Preventive and Community Dentistry College of Dentistry The University of Iowa Iowa City, Iowa 53340
Objectives:	To give dental students insight into the broader social, economic, and health needs of a segment of society different from the one they see at the regular Dental College Clinic or may see in future private practices. To help dental students increase their skills in operative dentistry and to develop improved patient-dentist relationships, particularly with children of ethnic, cultural, and economic backgrounds other than those usually seen in the College Clinic. To provide urgently needed dental care to underprivileged people.
Description:	The program gives five full-time dental student trainees the opportunity to offer comprehensive treatment and preventive services to approximately 600 migrant workers and their children during an eleven-week period from early July through early September. In June, students undergo an "orientation" which includes staff meetings and reading assignments describing the overall problems and plight of migrant workers. The dental team then travels to Muscatine, Iowa, to do screening examinations of children in the migrant summer school run by the Muscatine community. The children are picked up each day from schools and scattered farms in the Muscatine area and transported to the College Clinic at Iowa City. The Oral Surgery Clinic is open on Thursday afternoons under the supervision of an oral surgery faculty member. In addition,

the dental students work each Friday evening with medical, nursing, and pharmacy students in an emergency and screening clinic in a church basement in Muscatine.

Additional Information: The program is under the daily supervision of the head of the Department of Preventive and Community Dentistry with assistance from several other faculty members of other departments such as Pedodontics and Oral Surgery. The Dental Division of the Iowa State Health Department loans excellent portable dental equipment, supplies materials for the self-administration of flouride in the migrant school, and provides funds to help purchase needed professional supplies for the clinics.

Title: Community Dental Clinic

Location: University of Missouri
Jackson County Public Hospital

Sponsors: University of Missouri School of Dentistry
Hospital Board of Jackson County Public Hospital
Director of Jackson County Public Hospital

Funding: Information not available

Size: All fourth-year dental students
Clinical faculty of the School of Dentistry

Contact Personnel: Dr. H. Bernerd Allmon
School of Dentistry
University of Missouri
650 East 25th Street
Kansas City, Missouri 64108

Objectives: To give students experience working in a public health clinic by providing oral health care for low-income persons.

To give students first-hand understanding of oral health and related problems and the beliefs and practices of various categories of disadvantaged persons.

To help develop in the students a sense of social and community responsibility to contribute to solving community health needs.

Description: Fourteen fourth-year dental students and their primary clinical instructor are assigned to Jackson County Public Hospital for periods of one month to provide oral health care for low-income residents of Jackson County. Dental hygiene students are also assigned, four at a time, for periods of one week. Graduate students in various clinical specialties are assigned to work in the clinic on a part-time basis to provide them with clinical experience and to act as consultants for predoctoral students. Emphasis is placed on preventive and comprehensive care.

Title:	Mobile Dental Unit
Location:	University of Iowa
Sponsors:	Department of Health, Education and Welfare Iowa Office of Economic Opportunity
Funding:	$70,000 original cost of Mobile Unit
Size:	4 dental students 2 dental hygiene students 3 faculty
Contact Personnel:	Dr. W. Philip Phair, Professor and Chairman Department of Preventive and Community Dentistry College of Dentistry The University of Iowa Iowa City, Iowa 52240
Objectives:	To provide students with experience in community involvement. To provide free or low-cost dental treatment for individuals who for economic reasons would not otherwise receive regular professional care. To help the student define his role as an informed and concerned leader in the community.
Description:	Working within the community itself, the student has the opportunity to evaluate some of the problems he will face upon completion of the dentistry program. The Mobile Unit allows students to work in communities where the potential patient load is greater and the number of patients per student is larger than in the regular student clinic at the College of Dentistry. Not only does the student see more patients, he also sees a broader spectrum of dental problems. Since the Mobile Unit draws its patient load from those areas in the community where dental problems are the greatest, the student is exposed to many types of problems and his operative experience is broadened. The Mobile Unit Program gives students awareness of the health needs of the community, knowledge of available resources, and understanding of socioeconomic factors affecting the health of their patients. Dental problems are often the result of other hidden problems such as the negligence of community groups in insuring good public health programs, apathy about the overal health of the community, or a lack of individual understanding of what constitutes good health care. The Mobile Unit thus serves to increase the sense of social responsibility of students as well as to broaden their experience.
Title:	Summer Apprenticeship Training in Community Health
Location:	University of Missouri

Sponsor:	Kansas City Health Department School of Dentistry University of Missouri U.S. Public Health Service
Funding:	Information not available
Size:	6 dental students Faculty of the Division of Preventive and Community Dentistry of the School of Dentistry Director and staff of the Kansas City, Missouri, Health Department
Contact Personnel:	Dr. Russell W. Summicht, Associate Dean School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objective:	To give first- and second-year dental students observational and working familiarity with the problems, organization, administration, and operation of a complex metropolitan public health activity.
Description:	Six first- and second-year dental students are selected to spend a total of twelve months during summers in a program organized and supervised by the Director of the Kansas City Health Department. Medical and osteopathic students also are assigned to the program. After a period of approximately two weeks of orientation to the Kansas City governmental structure and operation and the codes dealing with health and related matters, the students are assigned, either individually or in groups, to observe and/or participate in a variety of community health and related activities, organizations, and institutions in the seven-county metropolitan Kansas City area. Students keep daily diaries of their experiences. The diaries are used as bases for discussion in biweekly reviews conducted by the program director and staff and in developing a required final report of summer activities.

Title:	Public Health Traineeship
Location:	The University of Iowa
Sponsor:	Public Health Service
Funding:	Information not available
Size:	2 students Director of Des Moines-Polk Health Department
Contact Personnel:	Dr. W. Philip Phair Department of Preventive and Community Dentistry College of Dentistry The University of Iowa Iowa City, Iowa 52240

Objective:	To provide the student with an opportunity to observe and participate in the functioning of a public health department.
Description:	During his two-month traineeship in Des Moines, the student observes all functions of the health department by spending some time, usually a morning or afternoon, either in individual conferences with the division heads or in field observation visits with public health nurses and sanitarians and in observations of various clinic operations. Whenever possible, he is encouraged to participate. The student is expected to study the principles and practice of public health through assigned collateral reading. Finally, he develops or participates in a specific project related to the work of the department and of particular interest to him. At the termination of his traineeship, he must submit a report describing his selected project to the department.
Title:	Children's Mercy Hospital Program
Location:	University of Missouri Children's Mercy Hospital
Sponsor:	Children's Mercy Hospital
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Dr. James Lowe School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To increase student understanding of the special oral health needs of handicapped and disadvantaged children. To give students experience in providing oral health care for such children, knowledge of hospital operations, and exposure to oral health care in a hospital operating room. To contribute to community health care needs.
Description:	Fourth-year dental students are assigned, for periods of one week, to Children's Mercy Hospital. There the students work in the hospital clinic, providing oral health care for handicapped children and children and youth from low-income families. As part of a federal comprehensive health care program, students have the opportunity to work on children under general anesthesia in the hospital waiting room.
Title:	Kansas City General Hospital Assignment
Location:	University of Missouri Kansas City General Hospital
Sponsor:	Kansas City General Hospital

Size:	Information not available
Contact Personnel:	Dr. Robert Allen School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To give graduate students in oral surgery and fourth-year dental students knowledge of the nature and extent of oral surgery and dental emergency problems encountered in a large metropolitan area. To give them experience in treating various types of oral surgery and dental emergency problems. To make students aware of the operations and procedures of an active, urban general hospital.
Description:	Fourth-year dental students are assigned, four at a time, to the oral surgery service of Kansas City General Hospital. The hospital is staffed by two oral surgery residents who provide routine and emergency exodontia and oral surgery service for low-income persons. The service is the primary source of emergency dental care for Kansas City residents during hours when dental practitioners' offices are normally closed. Care is provided in a conventional oral surgery clinic or in a hospital operating room. Predental students work with the oral surgery residents, participating to the extent that their capabilities will permit in providing care for patients.

Title:	Department of Community Dentistry
Location:	University of Alabama
Sponsors:	Information not available
Funding:	Information not available
Size:	225 students 9 faculty
Contact Personnel:	Wesley O. Young, Professor Department of Community Dentistry The University of Alabama University Station Birmingham, Alabama 35294
Objectives:	To better meet the needs of patients and society. To increase the social awareness of dental students and dental practitioners. To increase awareness of a variety of agencies and organized community efforts involved in attempts to solve dental health problems.

Description:

The activities of the Department of Community Dentistry may be divided into three categories.

DIRECT INSTRUCTION

Doctors, Patients, and Health. The first major contact of dental students with dental public health starts in the first quarter in the second year. This course is designed primarily to introduce the dental student to the setting in which dentistry and patient care occurs.

Dental Public Health. During the first quarter of the third year a didactic course is given outlining in some detail the objectives, characteristics, and operation of the dental public health programs.

Field Assignment, Jefferson County Health Department. Concurrently, with the course on "Dental Public Health" the students in groups of two or three are assigned for two half days to the Jefferson County Health Department. They visit the health department offices on one morning and review the overall activities of a large and sophisticated local health department. During the second period they visit mobile dental trailers in which dental care is being provided for indigent children. They do standard epidemiological surveys (DMF, OHI, etc.) and observe the operation and administration of the programs. They are responsible for the preparation of a report summarizing their observations.

Community Dentistry. In the third quarter of the junior year the students have an advanced course in "Community Dentistry," which is a continuation of the course "Doctors, Patients, and Health."

Epidemiology and Biostatistics. In their third quarter, juniors also have a twelve-hour course in "Epidemiology and Statistics," designed to emphasize the basic concepts of probability, sampling, and establishing levels of confidence.

Field Assignment to Bryce Hospital. At the beginning of the senior year, the dental students are assigned for one week to the Bryce Hospital for the mentally ill in Tuscaloosa, Alabama. Their primary responsibility is to provide clinical care for the patients, but they also are introduced to the problems of emotional illness and the type of public programs that attempt to cope with these problems.

Practice Management, AU, TEAM. The purpose of this course is to prepare the student to be an effective practitioner of dentistry, to be able to produce oral health care of high quality and of reasonable quantity. These units include classroom lectures, seminars, television demonstrations, and assignments to specialized clinics in which students have the opportunity to treat patients.

OBSERVATION AND PARTICIPATION IN INNOVATIVE PROGRAMS

Dental Auxiliary Training. The students have an opportunity to

participate in a program which trains auxiliaries both to perform conventional functions (four-handed dentistry) and expanded functions. During this rotation they are also introduced to the most effective mechanisms by which auxiliaries can be trained, particularly in the dental office, if necessary.

Practice Simulation. The University of Alabama has one of the first programs to study the characteristics of clinical dental practice and the impact on the productivity of the practice of the use of auxiliaries in various combinations. This is a clinical situation in which one dentist performs clinical functions using various kinds of auxiliaries, but every attempt is made to simulate as much as possible the characteristics of a private solo dental practice.

Student Dental Health. The University of Alabama is the only school that has a comprehensive program of dental care for dental students (along with medical, nursing, and some others) on a prepaid basis.

Summer Programs. A variety of activities related to dentistry are available to students during the summer period.

Senior Elective. Those students who have completed the basic requirements for clinical dentistry and who have a good academic record are eligible for a variety of elective experiences in their senior year, including special experiences in community health.

Graduate Education. The University of Alabama is the only dental school which currently offers a master's degree in public health. Ordinarily, this graduate degree is taken after the student has graduated from dental school. It is possible, however, for an outstanding student to take a portion of the course work required for the graduate degree during his last two years in the dental school. This reduces significantly the twenty-four month period ordinarily required for completion of the advanced degree.

Title:	Public Health Preventive Dentistry Program
Location:	University of Pittsburgh
Sponsors:	Bureau of Health, Manpower Division
Funding:	$370,714, September 1965 through August 1973
Size:	474 students 13 faculty
Contact Personnel:	Dr. Om P. Gupta, Professor and Head Departments of Public Health and Preventive and Graduate Periodontics School of Dental Medicine University of Pittsburgh Pittsburgh, Pennsylvania 15213

Objectives:	To strengthen and expand the curriculum in Public Health Preventive Dentistry for the undergraduate students in dentistry, dental hygiene, and dental assisting. To increase emphasis on the preventive aspects of oral disease. To motivate the students to accept their role as important members of the health team in the community.
Description:	Intensive courses in the following subjects are being given: Programmed instruction course in Public Health Practice with special emphasis on dental public health. Biostatistics and critical evaluation of the literature (sixteen one-hour lectures). General and dental epidemiology (approximately eight hours). Behavioral sciences course including psychology and sociology (approximately eight hours of lectures). Public Health Nutrition with special emphasis on the role of nutrition and nutrients in the prevention of oral disease (sixteen hours). Preventive Dentistry Clinic. (More time is being spent by the faculty and the students on patient education and education of the student in clinical preventive aspects.) In the Preventive Dentistry Clinic every student is instructed in the methods of patient education by actual demonstrations utilizing modern audio-visual aids. The attitudes of patients concerning oral health, before and after dental health education, are evaluated with the help of a questionnaire.
Title:	Dental Health Program
Location:	New York University Dental Center
Sponsors:	Department of Preventive Dentistry and Community Health Proctor and Gamble Student Council
Funding:	$3,000 originally from Proctor and Gamble $700-800 annually from Student Council
Size:	100 dental students 5 student directors
Contact Personnel:	Dr. Steven S. Schwartz, Student Coordinator Dental Health Program Department of Preventive Dentistry and Community Health New York University Dental Center 421 First Avenue New York, New York 10010

Objectives: To screen elementary school children, high school children, Settlement House residents, and others in low socioeconomic areas where they have not received sufficient dental treatment.

To make children in lower socioeconomic areas aware of the need for proper home care through a four-part program presented in schools.

To train the public school teacher to teach oral hygiene through workshops (a two-session program).

Description: The program consists of:

A play, "Happy Tooth Meets the Wizard of Oz."

Visits of dental students to classrooms to give individual instruction on oral hygiene. At this time a coloring book developed by the students in the Dental Health Organization with art work of an NYU dental student is distributed.

A "Brush In" where approximately 300 children at a time are supervised by dental students in the self-application of a fluoride prophylactic paste.

A parent-teacher workshop where the etiology and prevention of dental disease is taught to parents and teachers so that they may reinforce what was taught to the children.

Title: Externship Program

Location: The University of Iowa

Sponsor: Information not available

Funding: No separate funds

Size: Summer 1972: 20 students
31 sponsoring dentists

Contact Personnel: Professor W. Philip Phair, D.D.S., Chairman
Department of Preventive and Community Dentistry
College of Dentistry
The University of Iowa
Iowa City, Iowa 52240

Objectives: To permit senior dental students:

To observe the daily activities associated with running a private dental practice, including practical business management procedures such as appointment book control, office designs, dental supply and equipment purchases, and hiring and training of auxiliary personnel.

To observe how the dentist relates to his patients, employees, fellow dentists, and his community.

To obtain a general perspective of the dentist's procedures with private dental patients and to observe comprehensive dental care, including examination, diagnosis, treatment planning, presentation of the treatment plans, and preventive dental dynamics.

Description:	Senior dental students spend one summer working as dental assistants in the offices of dentists. The participating dentists are appointed to the College of Dentistry's faculty with the title of *Clinical Professor (Preceptor)*.
Title:	Preceptorship for Dental Students
Location:	Offices of practicing dentists in Missouri and Kansas
Sponsors:	The University of Missouri School of Dentistry Participating dentists in Missouri and Kansas Western Missouri Area Health Education Center
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Dr. Russell Summicht or Dr. William Mayberry School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objective:	To expose dental students to actual dental practice in a variety of situations with emphasis on practice in rural and low-income urban areas.
Description:	Fourth-year dental students are assigned for periods of one week to the offices of participating preceptors. Most of the preceptors invite the students to live in their homes during the assignments. Experiences are determined by the preceptors and vary in the amount of observation and participation. In most cases the visits are designed to acquaint students with the advantages and disadvantages of living and practicing as dentists.
Title:	Oral Health Education for School Children
Location:	Elementary and junior high schools in the greater Kansas City area
Sponsor:	School of Dentistry, University of Missouri
Funding:	Information not available
Size:	All third-year dental students All oral health education teachers
Contact Personnel:	Dr. Genevieve D. Roth School of Dentistry University of Missouri 650 East 25th Street Kansas City, Missouri 64108
Objectives:	To give dental students practical experience in arranging, preparing, and delivering oral health education to elementary and

junior high school children.

To give students some sense of community responsibility and some experience and confidence in organizing and completing a community oral health project.

Description: Each third-year dental student is responsible for oral health education for elementary or junior high school students attending school in the greater Kansas City area. Students are graded on the preparation and appropriateness of their presentations to the classes selected, their follow-up written reports, and evaluations received from the school teachers and classes involved. A supply of educational aids is available in the dental school for student use.

Title: Mental Health Institute Internship

Location: The University of Iowa

Sponsor: College of Dentistry

Funding: Information not available

Size: 2 senior dental students per five-day session
2 faculty

Contact Personnel: Professor W. Philip Phair, D.D.S., Chairman
Department of Preventive and Community Dentistry
College of Dentistry
The University of Iowa
Iowa City, Iowa 52240

Objective: To give senior dental students valuable experience in operative dentistry and oral surgery under the supervision of a highly qualified staff dentist at the Mental Health Institute.

Description: Besides gaining valuable practical experience, the students are also given the opportunity to be present at staff conferences, view psychiatric treatment procedures, listen to professional staff people discuss treatment plans and progress for individual patients, participate in the Institute's ongoing educational programs for other professional groups, attend ward rounds with staff doctors, and, in general, have a variety of opportunities to observe and understand most of the facilities and routines of the entire Mental Health Institute.

The University provides for the students' travel expenses while the Institute provides dormitory facilities and meals during the five-day visitation. While at the institution, the students are "on call" twenty-four hours a day. Evenings are planned so that the students can attend civic or professional meetings and visit other facilities such as the Peoples' Memorial Hospital in Independence.

The program and the student are evaluated at the close of each student's stay at the Institute by providing a questionnaire for

the staff to complete and requesting a narrative report from the student concerning his activities of the week and his opinions of the program.

Title:	Handicapped Children's and Cleft Palate Programs
Location:	Howard University
Sponsor:	District of Columbia General Hospital
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Joseph L. Henry, Dean College of Dentistry Howard University Washington, D.C. 20001
Objectives:	To allow pedodontic interns to participate in the formal Pedodontic Postgraduate Program at D.C. General Hospital. To allow orthodontic and pedodontic postgraduate dental students and faculty in hospital-based programs.
Description:	The Pedodontic Program will cover the scope normally required in an A.D.A. accredited pedodontic program covering inpatients and outpatients in the total children's services of the hospital.

3/ Social Work

> Public Assistance programs as they exist now have outlived their usefulness and must be replaced.[1]

This type of wide-sweeping criticism is coming from a few contributors to the professional literature in social work. To be sure, these persons are not totally representative, nor does the breadth of introspection exhaust all that may be wrong with our social welfare system. The discussion here, which surely omits important issues related to the education of social workers, are (1) obtaining sufficient numbers of professional social workers; (2) the tendency of the system to nurture dependence; (3) problems related to client advocacy; and (4) the objectivity of social workers.

As in the health professions, there are *serious shortages of professional social workers*. (Among social workers a "professional" is defined as a person with a master's degree in social work.) Much to the chagrin of some social workers, and with little consultation, many public agencies are using paraprofessionals and indigenous personnel in social programs.[2] Although there is considerable resistance within the profession, this development has gained much momentum especially in Johnsonian "Great Society" programs. In these programs the indigenous are usually recruits from the target neighborhood, recruits who often seriously and openly question the behavior of the social work professionals.

One critic views our welfare system as knowingly aiding and abetting a process of "welfare colonialism" by which the social worker serves to "get the people adjusted so they will live in hell and like it too."[3] In less dramatic terms this statement means that we have helped many of the poor of this nation to escape from their position of dependence. Yet few issues surrounding welfare controversies have gained as much bipartisan support as has the principle that welfare should enhance welfare recipients' personal independence!

[1]Alan D. Wade, "The Guaranteed Income: Social Work's Challenge and Opportunity," *Social Work* 12 (January 1967): 94-101.
[2]Frank M. Loewenberg, "Social Workers and Indigenous Non-Professionals: Some Structural Dilemmas," *Social Work* 13 (July 1968): 65-71.
[3]Wade, "The Guaranteed Income."

And there is no philosophical disagreement among welfare professionals on this matter. The worthiness of each human being is the fundamental tenet of all social welfare, but the terrible dilemma of the social case worker is how to minister to man without robbing him of his personal dignity. Regardless of the methods used by the case worker, at times he or she almost certainly works against the ultimate end of promoting the dignity and individual worth of each human being. "How humiliating to be told that one behaves in a particular manner because one cannot help it, that one is not responsible for one's actions, that X is the result of poor socialization."[4] A popular though perhaps undeserved image of today's case worker is that he is one who is determined to provide social services whether the client senses his or her need; indeed, the image is often that those services will be applied in spite of the wishes of the client.

The solutions posed to this dilemma are several. Miller argues that we should not force welfare upon a person who may not even realize he is afflicted, may not care, and may not want help. To make one's own decisions is the true dignity of man, says Miller. Another suggestion is to concentrate on prevention and rehabilitation of the young and their families.[5] Conceivably, this approach would involve an attempt to provide information and counseling so that members of welfare families could move toward personal independence. Finally, there are the on-again, off-again proposals of the current federal administration for a guaranteed annual wage.

The traditional role of the contemporary case worker is that of a therapist, and the resulting education of social workers is largely based upon psychoanalytic theory. However, about eight years ago the role of client advocacy was introduced into the literature.[6] Today there is great controversy among professional case workers concerning the propriety of this role. The dilemma is grounded in the dignity of man tenet, but it is further complicated by the fact that the basic unit providing social work services is the community-sponsored social agency. The social worker who aggressively assumes the role of client advocate often finds himself in circumstances in which he is advocating against his agency-employer. In any profession primary ethical responsibility is to the client; however, in professions other than social work such conflicts are seldom so inescapable.

[4]Henry Miller, "Value Dilemmas in Social Casework," *Social Work* 13 (January 1968): 27-33.

[5]John B. Turner, "In Response to Change: Social Work at the Crossroad," *Social Work* 13 (July 1965): 7-15.

[6]Charles Grosser, "Community Development Program Serving the Urban Poor," *Social Work* 10 (July 1965): 15-21.

The priority of serving the client appears to lead to yet another related controversy. Should social workers persist in the advocacy and defense of clients even in cases of illegal activity, such as client fraud? Regardless of the true facts, the public image as illustrated in the press is that the case worker sometimes has his judgment clouded by his total involvement with his client. Not unlike the attorney, the social worker's public credibility sometimes is placed in serious jeopardy by his or her apparent inability to view circumstances from a vantage point other than that of the client. The infusion of this set of values into social work students by schools of social work may be a classic illustration of socialization at work.

EXEMPLARY PROGRAMS

Reading the abstracts of many of these fifteen social work programs that were identified as exemplary is not terribly encouraging. Perhaps the sources of information were limited and most of the truly exciting programs escaped attention; however, on the basis of the programs that were singled out by social work professionals and social work associations, substantial reform in social work education does not seem underway. Most of the programs do not appear to attack directly the major social problems bearing upon social work, although they may well prepare truly excellent traditional professionals.

Most of these programs appear to have a rather traditional objective: to enhance the general effectiveness of social work practitioners. Seven of the programs attempt to use various curricular or instructional innovations to improve program quality. Several of these seven programs emphasize field experiences — putting realism into social work training. At least one of these programs focuses on problem-solving experiences, while another seeks to broaden its offerings by allowing for student specialization in a particular delivery system, such as a mental health clinic, hospital, child guidance clinic, or drug program.

Only one program mentions as an explicit objective the increasing of the number of social work professionals. A program at The Pennsylvania State University may have this goal in mind when it attempts to expose undergraduate students to the possibility of social work careers; but only Simmons College, which tries to make it possible for women with children to become professional social workers, is clearly aimed at this objective. The University of New Mexico program does prepare paraprofessionals, and this may be partially in response to general shortages of professionals; but it is interesting to note that this program is housed in the Department of Psychiatry. It is not a school of social work effort.

Some of the programs in social work give attention to the improvement of service modes and delivery systems. The graduate program in the School of Social Work at the University of Minnesota appears to be a truly exemplary program in these respects. It is the only program that mentions in its promotional materials increasing the self-sufficiency of clients. This School of Social Work, in Duluth, is devoted to preparing social workers who will be sensitive to the needs of local communities. The curriculum centers on social policy and on the political and economic progress of clients, rather than on traditional casework and group coursework. Clearly, preventive modes of service are being sought. The Arizona State program gives considerable attention to expanding delivery services through considerable exposure to a wide range of human service agencies. The program also prepares students for cross-cultural social work practice. A program housed at the University of West Virginia focuses on social change by using field work in Appalachia as the laboratory for testing the change theories of the classroom.

The focus of the Howard University program is on blacks. The program emphasizes the unique characteristics and needs of black people in America. Concentration upon these unique characteristics and needs is severe, both in the classroom and in practicum experiences.

The final program in this section is an international social service program that is a joint endeavor of Columbia University and Colombia, South America.

Title:	Community Services and Social Planning Concentration
Location:	University of Denver
Sponsors:	National Institute of Mental Health and Social and Rehabilitation Sciences
Funding:	Information not available
Size:	30 graduate students 5 faculty 21 placement organizations
Contact Personnel:	Dr. Charles McCann, Chairman Graduate School of Social Work University of Denver University Park Denver, Colorado 80210
Objectives:	To provide the knowledge and theory required for the students' field practicum assignments. To serve as a testing ground for the application of theory to the demands of professional practice.

Description: The seminar is the major educational approach utilized throughout this course. The student is expected to read extensively and critically and to apply the theoretical concepts he encounters to his "problems of practice." In general the process to be followed for major topical items on the course outline are as follows:

- General orientation to the topic by the instructor.
- Search and study of the topic by students.
- Seminar discussion of the topic by students and instructor.
- Knowledge, commitment, and personal stance on topic by student (working paper).
- Evaluation of working paper by instructor.
- Knowledge commitment by instructor.
- Joint evaluation and individual follow-up sessions if appropriate.

In addition to the process outlined above, a variety of secondary educational opportunities for learning will be utilized, including case history analyses, student presentations, film reviews, simulation exercises, and resource persons.

Title: The Graduate Program in Social Work and Community Planning

Location: The University of Maryland

Sponsors: The University of Maryland
National Institute of Mental Health

Funding: Information not available

Size: 225 students
11 faculty

Contact Personnel: Dr. Daniel Thursz, Dean
School of Social Work and Community Planning
University of Maryland at Baltimore
525 West Redwood Street
Baltimore, Maryland 21201

Objective: To produce outstanding practitioners who will add to the strength of the profession in the planning, the organization, and the delivery of social services and who will help the State of Maryland and the country as a whole cope with urgent problems.

Description: The curriculum of the Graduate Program provides three specializations, permitting the student to narrow his focus and obtain the educational experience most relevant to the specialized tasks which he will undertake upon graduation. Three sequences provide the foundation for all social work practice: Social Services and Policy, Human Behavior and the

Social Environment, and Social Work Research. Each sequence offers required courses and additional electives. The three specializations, or concentrations, are organized according to key areas of social work practice: Clinical Social Work, Social Strategy and Planning, and Social Administration. In all three of the concentrations the student is expected to engage in both classroom and field learning. At the present time the pattern for field instruction varies among the concentrations.

The key objective of field instruction is to involve the student in learning by doing. The student must master a body of theory and be prepared to apply his knowledge and skills to human problems. An attempt is made to individualize according to student needs and interests and match these to a suitable field instruction setting. Students are encouraged to participate in the field instruction placement by identifying their own interests and goals.

Title:	School of Social Service
Location:	Indiana University, Indianapolis
Sponsors:	State Legislature Social and Rehabilitation Service National Institute of Mental Health
Funding:	$709,532 for 1972-73
Size:	180 undergraduate students 170 graduate students 150-200 students enrolled part time or in another degree sequence 23 full-time and 8 part-time faculty 65 agency personnel in the field
Contact Personnel:	Richard G. Lawrence, Dean Graduate School of Social Welfare Indiana University-Purdue University 925 West Michigan Street Indianapolis, Indiana 46202
Objective:	To train social work practitioners to provide direct services at the individual, small group, family, organization, and community levels.
Description:	The School of Social Service has developed a curriculum which is systematic in its educational effect. It includes: A general social work curriculum with a focus on problem-solving experiences in the classroom, the simulation laboratory, the audio-visual laboratory, and the field. A computer-based, broad spectrum information center, specialized library, and educational program to make social work students effective users of social science information. This information center serves the information requirements

of both the academic classrooms and the field settings.

A program of instruction which provides opportunity for concentrated, focused experiences in substantive areas that are of interest to the student and are of importance in society today.

Beginning with the M.S.W. class of 1973-74, students will have generic educational experiences their first year, and will concentrate in either direct services to individuals, families, groups and communities or in planning/management their second year. They additionally will be able to focus individually on particular problems, target groups, and/or service programs through selection of elective offerings.

Title: School of Social Work — Concentrations Program

Location: University of Hawaii

Sponsors: State General Fund, with the exception of Mental Health which is funded by the National Institute of Mental Health

Funding: $600,000 total

Size: 200 graduate students total
110 first-year students in concentrations
20 students (average) per concentration
30 faculty

Contact Personnel: Herbert H. Aptekar, Dean
School of Social Work, Hawaii Hall
University of Hawaii
2500 Campus Road
Honolulu, Hawaii 96822

Objectives: To give students an opportunity to become acquainted with the six fields of social service in which they will be taking positions.

To train "generalists" who also have special knowledge in one field, i.e., their field of concentration.

Description: All students enroll in core courses, but each chooses to concentrate in a specialized field before entering the school or after a period of experience in the school.

The concentrations presently offered are the following:

Public Social and Rehabilitation Programs
Community Mental Health
Family Planning
Health and Medical Care
Voluntary Community Programs
International Social Work

All courses, whether core or specialized, require a good deal of study of community need.

Title:	Graduate School of Social Work
Location:	Boston College
Sponsors:	National Institute of Mental Health Community Services Administration (HEW) Rehabilitation Services Administration (SRS-HEW) U.S. Public Health Service Office of Manpower Training and Development (SRS HEW)
Funding:	Information not available
Size:	136 graduate students in Social Casework 41 graduate students in Community Organization and Social Planning 9 graduate students in Social Work Research 42 part-time graduate students 34 full-time faculty 3 part-time faculty
Contact Personnel:	David E. Tannenbaum, Director of Curriculum Boston College Graduate School of Social Work McGuinn Hall Chestnut Hill, Massachusetts 02167
Objectives:	To prepare graduates for professional social work practice. To help students become intelligent and creative practitioners as well as sensitive and caring professional social workers.
Description:	The two-year Social Work curriculum is designed to prepare students for responsible entry into the profession. Specialization is offered in three basic areas of practice: Casework, Social Work Research, and Community Organization and Social Planning. In keeping with the guidelines established by the Council on Social Work Education, a core curriculum is required for all students. This core includes: Human Behavior and the Social Environment, Research, Social Welfare Policy and Services. While specific courses are also required in each method, a variety of electives is available largely in the second year. These elective courses may be taken within the School of Social Work or in other departments of the University where courses are related to the field of social work.
Additional Information:	Boston College is one of the oldest Jesuit-founded universities in the United States. The Graduate School of Social Work was established in 1936 to prepare young men and women for careers in professional social service, persons who are inspired by the Judaeo-Christian philosophy of love for one's fellow man and who have an appreciation of the natural dignity of all men regardless of race or creed.

Title:	Social Work Treatment Concentration
Location:	University of Denver
Sponsor:	National Institute of Mental Health and Social and Rehabilitation Services
Funding:	Information not available
Size:	98 graduate students 13 faculty 26 placement organizations
Contact Personnel:	Professor Eleanor Barnett, Chairwoman Graduate School of Social Work University of Denver University Park Denver, Colorado 80210
Objectives:	To expand and reinforce the principles and the process of social work practice — the practicum sequence. To provide theoretical constructs and principles to serve as conceptual models for social work practice as related to individuals, families, groups, and communities. To prepare professional social work practitioners with competency to assume the variety of roles and positions in light of current manpower needs.
Description:	The Social Work Treatment Concentration is designed for three quarters of the second year of social work education.

Title:	Graduate Degrees in Social Welfare
Location:	University of California
Sponsors:	State of California Department of Health, Education and Welfare Carnegie Corporation
Funding:	$864,000 for the education program (1972-73) $238,000 for student aid and the stipends (1972-73)
Size:	168 M.S.W. students 23 M.S.W./D.S.W. students 44 D.S.W. students 34 full-time faculty 16 part-time faculty
Contact Personnel:	Milton Chernin, Dean School of Social Welfare 120 Haviland Hall University of California Berkeley, California 94720

Objectives:

To prepare students for careers as professional social workers directly serving individuals, families, other small groups, and communities.

To prepare students for careers in planning, analyzing, administering, and evaluating social service policies, programs, and organizations.

To prepare students for careers as professional researchers and social services teachers.

Description:

The two-year graduate curriculum leading to the degree of Master of Social Welfare is designed to equip students with the essential knowledge, philosophy, and basic skills for responsible participation in the profession of social work and the field of social welfare through (1) continued development of competence in the practice of one or more of the social work methods; (2) contribution to social policy analysis, interpretation, and change; and (3) promotion of scientific inquiry into the professional body of knowledge. The program has within it several specialized areas of concentration, which are:

Administration of the Social Services
Aging Program
Children and Their Families
Community Mental Health Curriculum
Community Organization and Social Planning
School Social Work

The School offers a combined M.S.W./D.S.W. program leading to the Doctor of Social Welfare degree. Students enrolled in this program are able to work concurrently toward both the Master and Doctor of Social Welfare degrees. It is expected that students in this program normally will be able to obtain the Master of Social Welfare degree and to complete the formal course work for the doctorate in three years. Following successful completion of the course work for the doctorate, students seeking the D.S.W. degree must also pass qualifying examinations in their chosen fields of study and complete an acceptable dissertation. The latter work usually requires at least an additional year or two of study.

The doctoral program is an individualized course of study in which the student is expected to master the available body of knowledge in his chosen field of interest and to develop and demonstrate the capacity to conduct independent research. Specifically, the student pursues studies in (1) the social welfare problem area of his dissertation; (2) the social science theory and empirical work relevant to the problem area; and (3) the intervention methods appropriate to the dissertation topic. The program is so designed that the student can relate his studies to his central interests by selecting courses that bear directly on them.

Additional Information:

The School of Social Welfare achieved its most rapid growth and development after World War II. Its student body grew so

rapidly that the School became one of the largest among accredited graduate schools of social work in the U.S. and Canada. In 1940 a two-year master's degree program was inaugurated, and in 1959 a Doctor of Social Welfare program was approved by the Regents.

Title:	Extended Program for Women with Children
Location:	Simmons College
Sponsors:	No outside sponsor
Funding:	No separate funding
Size:	50 women currently enrolled Faculty of the School of Social Work
Contact Personnel:	Meyer Schwartz, Director School of Social Work Simmons College 51 Commonwealth Avenue Boston, Massachusetts 02166
Objective:	To make it possible to admit well-qualified women with children whose decreasing family responsibilities make part-time study possible, and whose personal characteristics indicate success in working with other people.
Description:	Since 1954 the School of Social Work has admitted a small number of applicants to the Extended Program for Women with Children. Students should be able to devote three days per week to the program, which usually takes four years to complete. In the field and the classroom emphasis is on the practice of social casework. Most of the curriculum, which consists of basic knowledge useful for social workers, is required. Within requirements, opportunities are offered to pursue special interests in preparing to work with inner-city agencies. Also, the School offers field placements with supporting class work for students who wish to prepare for direct casework with children. If federal grants are approved, the School will be able to offer class and field placements in the areas of social and rehabilitative services and drug abuse.
Additional Information:	Since its founding in 1904 as the first school of social work in America to be affiliated with an institution of higher education, the School has graduated more than 3,000 men and women into positions of responsibility in the field of social work.

Title:	Major in Social Welfare
Location:	The Pennsylvania State University
Sponsor:	The Pennsylvania State University

Funding:	Information not available
Size:	200 students 5 faculty
Contact Personnel:	Dr. Margaret Matson, Director Social Welfare Major Department of Sociology College of the Liberal Arts The Pennsylvania State University University Park, Pennsylvania 16802
Objectives:	To allow students to explore the possibilities of a career in social work, social welfare, or related helping professions. To prepare students for entrance to graduate schools of social work or related professional schools. To instill in students an understanding of the significance of social welfare as an institution of growing importance in American society.
Description:	Required courses include: Introduction to Social Welfare Public Welfare or Social Casework Statistics Two courses in Sociology chosen from the Social Problems Area Cultural Anthropology Abnormal Psychology A course in Economics, History, or Sociology dealing with the American Labor Movement Field Experience The field experience involves placement off campus in a social agency for eight to ten weeks. It provides an opportunity to put classroom knowledge to use and to learn practical skills. Students work under supervision in social agencies, giving direct service to clients. This work is scheduled late in the junior or early in the senior year.
Title:	Community Service Worker Program
Location:	University of New Mexico
Sponsor:	Department of Labor Manpower Training, New Careers
Funding:	$350,000 per year
Size:	60 students 4 faculty
Contact Personnel:	Dr. Stephen R. Perts, Project Director Community Service Worker Program Department of Psychiatry The University of New Mexico

2701 Frontier, N.E.
Albuquerque, New Mexico 87106

Objectives: To help improve the quantity and quality of services provided in health, mental health, social welfare, and educational institutions.

To sensitize these agencies to the needs of the economically disadvantaged community by training personnel who are aware of these needs through their own experience.

To provide service to the community.

To alter negative stereotypes about poor peoples' aptitudes, motivations, and desires to improve their social and economic status.

To develop meaningful new jobs for the economically disadvantaged.

To provide the disadvantaged individual an opportunity to participate in higher education.

To enable the trainee to demonstrate to his or her family the value of education.

To offer the possibility of career mobility for the individual through the development of a career ladder.

Description: Students enroll in a two-year, work-study program leading to an Associate of Arts degree in Community Services in conjunction with the Department of Psychiatry within the School of Medicine. Training positions are available in community agencies which supervise the paraprofessionals.

Additional Information: Five years of experience with the New Careers training model has demonstrated that the individual trainee and the community do benefit from this type of work-study program. There are approximately 200 graduates of the New Careers programs currently employed in community institutions, and more would like to participate, as is evidenced from the more than 1,000 applications received.

Title: Graduate Program in the School of Social Work

Location: University of Minnesota

Sponsors: State of Minnesota
Law Enforcement Education Program
Duluth Indian Youth Project
Law Enforcement Assistance Administration
Department of Health, Education and Welfare
Social Security Act
Duluth Human Resource Planning Coalition

Funding: $380,000 for 1971-73

Size: 70 graduate students
14 faculty

Contact Personnel: Dr. John Jones, Director
The School of Social Work
University of Minnesota
2627 East 7th Street
Duluth, Minnesota 55812

Objective: To train social workers in community organization and development, management, comprehensive planning, administration, and social welfare programming.

Description: In 1971, the Minnesota Legislature appropriated funds for a new and innovative School of Social Work at the University of Minnesota, Duluth. Top priority has been placed on the development of a professional social work education program which is sensitive to the needs of the social welfare effort and the community.

Only minimal casework and group course work is covered in the graduate program. Considerable attention is centered on social policy matters (public welfare law, national health programs, etc.). Students are trained to work with local neighborhood groups, communities, and regions to help people become increasingly self-sufficient in dealing with their social welfare needs. There is considerable course content on political and economic processes, though the graduate program is designed for students who have aptitudes for working with communities and carrying out administrative or group work experience in direct service agencies.

To focus on specific social problems, the School is selecting particular areas of social development for demonstration projects in which both faculty and students participate. An important function of these projects will be the documentation of events and evaluation of outcomes through which generalizations and principles regarding social development may eventually emerge. The School will use field agencies and organizations which have particular relevance to social planning and strategy.

The School also offers a cluster of courses to prepare students for careers in criminal justice planning. With the advent of state crime commissions and regional crime councils, a need has developed for skilled criminal justice planners. The resources of the School's Criminology Center provide ample opportunity for outstanding educational experiences in criminal justice planning.

Title: Graduate School of Social Services Administration

Location: Arizona State University

Sponsors: Board of Regents
State of Arizona

Funding: Information not available

Size:	150 students 25 full-time faculty Agency field instructors
Contact Personnel:	Dean Horace W. Lundberg Graduate School of Social Services Administration Arizona State University Tempe, Arizona 85281
Objectives:	To provide professional education to students who will become social workers in a wide range of human service agencies: mental health clinics and hospitals, departments of welfare, child guidance clinics, drug programs, and many other settings. To prepare students for cross-cultural social work practice.
Description:	The curriculum includes study of human behavior in the social environment, social services and policy, social research, social work methods, and in the field (practicum). It is a two-year program leading to the M.S.W. degree. Practicum is concurrent with academic study and is carried out in a wide range of settings. Elective courses offer the opportunity to explore selected topics in depth, e.g., family therapy, community mental health, the minority experience, social planning and social change, and group dynamics.
Title:	School of Social Work
Location:	West Virginia University
Sponsors:	West Virginia University Department of Health, Education and Welfare U.S. Department of Labor Appalachian Regional Commission West Virginia Department of Health West Virginia Department of Welfare
Funding:	$900,000 per year
Size:	165 undergraduate students 160 graduate students 25 faculty
Contact Personnel:	Dr. Leon H. Ginsberg, Dean School of Social Work West Virginia University Morgantown, West Virginia 26506
Objectives:	To increase the student's understanding of social welfare as a system of social institutions within the context of social change and shifting values in a democratic society. To help the student develop a capacity for critical assessment of the significance of changes in social welfare policies and programs which affect human well-being in the American society and elsewhere.

To assist the student in the integration of knowledge drawn from his academic studies and life experiences into a personal philosophy regarding the rights and responsibilities of the individual in American society.

To give the student basic knowledge and skills which are important for beginning social work practice.

Description:

The Undergraduate Major in Social Work consists of 15 hours of upper-division courses in Social Work, 15-21 hours of upper-division work in a selected area of minor study, and a minimum of 24 hours of additional upper-division course work in Arts and Sciences, selected by the student from a group of recommended electives.

The social work major is designed for those students who are concerned about social issues; who wish an individualized, interdisciplinary course of study which is concerned with the development of human service skills; and who wish to pursue careers in the human services. It also is possible for students in other disciplines to minor in social work. Emphasis is placed on social welfare services in Appalachia with a view to training more practitioners for the region.

The Graduate Program in Social Work leads to the degree of Master of Social Work, accredited by the Council on Social Work Education. It spans two academic years and one summer session.

Throughout his first year in graduate studies, the student is taught a comprehensive approach to social work practice, providing him with the foundation principles, techniques, and values to practice social work with social systems of various sizes — from individuals to communities — as particular tasks require. In his second year the student has an opportunity to develop specialized expertise to complement his generalist capacities by electing a concentration in either social work practice affecting individuals, families, and groups, or social work practice affecting organizations, institutions, and communities. Field instruction is an integral part of the graduate social work program. It is the component through which the student is enabled to incorporate into his professional behavior the content learned in all areas of the curriculum.

The Appalachian region, of which West Virginia is a part, offers unique opportunities to study and work within a changing social environment. Parts of the territory are redeveloping from worked-out farms and mines and industrial areas, bringing about out-migration and in-migration of population with problems of personal adjustment and the reestablishment of social organizations. This natural laboratory of human experience is utilized during field experience in on-campus and field instruction.

Title:	Master's Degree in Social Work
Location:	Howard University
Sponsors:	Information not available
Size:	125 graduate students 23 faculty
Contact Personnel:	Mrs. Lucille Y. Baguidy, Admissions Chairwoman School of Social Work Howard University Washington, D.C. 20001
Objectives:	To provide educational experiences which give recognition and appreciation to the history, heritage, current needs, strengths and resources of the black community. To engage students, faculty, and community in scholarly inquiry about the truth of the black experience, with a view to formulating systematic knowledge and understanding of that experience. To conceive, design, and support new systems of service and/or effect changes in existing systems which are not responsive to the special needs of black people as these arise out of institutional racism. To provide the social resources — social work, medical, legal, political, psychological — that the consumers need to resolve the problems facing them. To train personnel in specific skills so that they might provide services to the community. To develop methods for assessing the adequacy and need of services, and making services accountable to the consumer. To help the community identify its own needs and assess adequacy of and needs for service and to develop means of improving these — i.e., consultation, collaborative projects, and other joint undertakings. To develop models of continuing consumer education, of participation in political processes, and of action, around which the daily lives of all black people may be improved.
Description:	The School of Social Work offers a two-year curriculum including class and practicum experiences. The student may specialize in Social Policy, Social Planning and Administration, or Direct Services. Students gain classroom and practicum experiences in five major areas centered around enhancement and creation of a black peoplehood: *Behavior Sequence* Course content is focused on the growth and development of the individual throughout the life cycle, from birth to death, with particular emphasis on the black growth experience. The first year is designed to deal with the normal development of the

black individual. The physical, social, personality, and cognitive development, especially personality development, will be studied, compared and analyzed in light of the black experience. The second-year course is designed to deal concurrently with the normal black and the psychopathological development of individuals.

Social Policy Sequence

Emphasis is placed on developing skills in the mechanics of social policy formulation. Social workers working from the black perspective will have to develop the capacity to design and shape social policy based on theoretical and value premises of blacks.

Social Planning and Administration

Social Planning and Administration is a new curriculum sequence that is aimed at establishing basic technical skills uniquely useful in developing black ghettos into black communities. The objectives are to provide specializing social workers in this curriculum area with a broad fundamental knowledge of social, economic, political, and administrative theories that are basic to working with people in indirect ways. Two fundamental professional roles, the social planner and the social administrator or manager, are related to each of the two areas. These newly developing professional roles are important in assisting communities, cities, and state and federal agencies in managing the health and welfare aspects of our large technocratic urban society.

Research Sequence

The objectives of the two-year research sequence, which is based upon the framework of the black heritage, is to extend the student's spirit of inquiry.

Field Work Practicum/Direct Services

Field work is an integral part of the total curriculum where the student is given the opportunity to make use of social work theory. The course is designed to deepen understanding of a wide variety of theoretical models, principles, and concepts related to the provision of direct social services. Students will develop the ability to apply problem-solving techniques and select appropriate intervention strategies at the individual, small group, and community levels.

Title:	Colombia Summer Project
Location:	Columbia University
Sponsor:	Howard Karagheusian Fund
Funding:	Information not available
Size:	5 students 1 faculty
Contact Personnel:	Professor Sidney Berengarten, Associate Dean School of Social Work

Columbia University
622 West 113th Street
New York, New York 10025

Objectives

To contribute to the social work education communities in Colombia, South America, and the United States.

To provide an expanded professional learning experience for selected Columbia University students who are interested in international social services.

Description

A few students who have completed their first year of study in the Master of Science Program and who are fluent in Spanish are selected for a seven-week assignment each summer in Colombia, South America. The assignment includes a period of observation, study, and supervised field work. As a comparable experience, the Schools of Social Work in Colombia send five professors to Columbia University during the winter for seminars in social policy, planning, research, and pedagogical methods.

4/ Teaching

> It certainly ought to be fair to say that any educational system which does not treat profoundly, seriously, and constructively the contemporary problems which are challenging education and society can hardly justify its existence. It is unfortunate, I think, that students at the college level have often seemed to be in advance of the faculties in this regard.[1]

For the first time in generations the burning issue in the teaching profession is no longer insufficient numbers. On the contrary, colleges and schools of education may well be encouraged to reduce the number of candidates admitted. Teacher oversupplies exist everywhere within most secondary fields, and in elementary education in all but the most remote geographic areas. In spite of this, there is little evidence that education faculties are curbing enrollments significantly even though such curtailment would be a relief to the hard-pressed higher education tax dollar. Some argue that present supply and demand conditions are temporary; but the projection through 1980 is for substantial oversupplies (Manpower Projections of the Department of Labor, 1972).

After the question of quantity comes that of quality. Some would say that educational research has made possible a new "enlightened era" in education. But, except for a few colleges of education, a scant number of isolated school districts, a few individual schools, and some scattered classrooms, the enlightened age is not yet upon us. Away from these few centers of enlightenment and innovation, the picture does not appear to have changed importantly in the past fifty years. In the majority of cases across the nation, the typical classroom remains neat rows of chairs, all facing the front, where the teacher is delivering his or her lecture. In most schools, "individualized instruction" continues to consist of students reading the textbook on their own and answering the questions at the end of each chapter.

In the disadvantaged school the situation is no better and no worse except that students are less likely to be willing to cope positively with their environments. Here the teacher is likely to have little understanding of and little tolerance for the culture of the disadvantaged

[1]Smith, Herbert A. "Professional Education: Taps or Reveille?" *School Science and Mathematics* 69 (January 1969): 43-52.

student. Almost certainly, he or she has not been schooled in the psychology and sociology of the disadvantaged, and cultural pluralism is a concept yet to come to his or her attention. In essence, the situation is in desperate crisis.

EXEMPLARY PROGRAMS

After reading the summaries of the exemplary programs in teacher education, the student of education for the professions is left with more questions than answers about reform in teacher education. The problem is not that there is necessarily anything wrong with these programs, but whether any of the innovations will make any difference.

There are some programs that clearly should make a difference. For example, five of the programs attack the basic problem of service modes by seeking to improve the capabilities of teachers of students who do not adhere to middle class norms — the culturally different, the economically disadvantaged, the Spanish-speaking, the children of the inner city, the long-ignored, the long-avoided. There seems to be considerable reason to hope that these programs will yield positive outcomes.

But, in viewing the remainder of these programs, one's optimism wanes. Of the eleven remaining programs, eight appear to pin most of their hopes for change on expanded field experiences. The curriculum pendulum of professional education seems to continue to swing to and fro every decade or so, first to emphasize theory, then to emphasize practical experience. But the question whether emphasis on theory or on application "makes the difference" is never answered, and thus one can never feel secure that programs reflecting either of these emphases will lead to significant improvements.

The approaches to increased practical experiences illustrated by these programs are as varied as the curricular viewpoints which underlie them: There is a major effort to provide field experiences much earlier in the student's preparation, sometimes as early as the freshman year. There is also expansion of practice in depth, with a full semester or a full year devoted completely to the application phase. In other cases field experience is a part of the curriculum in all four years of the teacher's preparation. Often the experience is characterized by incremental promotions, beginning with such a title as "teacher aid," running through "teacher apprentice," and culminating in "teacher intern."

The catch words of the day are "melding theory and practice," "personalized teacher education," "learning modules," "competency-based performance criteria," and perhaps most of all, "allowing each neophyte to develop a 'personalized' teaching behavior." Perhaps all

or some of these approaches will make a difference. The answer to this question remains to be answered. Unfortunately, questions such as this have come to be largely metaphysical ones in teacher education.

The remaining three programs are no different in this regard. Whether they will "make a difference" remains to be seen. They speak glowingly of "personalized teaching," "relevance," "participation in one's own education," of "self-knowing" and of other fine-sounding terms that beg for evaluation.

Title:	Career Opportunities Program (COP)
Location:	Temple University
Sponsors:	Education Professions Development Act School District of Philadelphia Model Cities Program of the Department of Health, Education and Welfare
Funding:	Information not available
Size:	137 students Faculty of the College of Education
Contact Personnel:	Dr. Frieda Herskowitz Department of Elementary Education College of Education Temple University Philadelphia, Pennsylvania 19122
Objectives:	To improve education in schools serving low-income children by recruiting and training people indigenous to these communities to work as auxiliaries and teachers in a variety of school programs. To increase the number of trained educational personnel at all levels in schools with low-income populations. To provide career choices for individuals previously denied the opportunity for preparation and participation in these careers.
Description:	Training and education are implemented through a work-study design which incorporates a career ladder-lattice plan; that is, advancement from one job level to another is contingent upon successful completion of academic work and practical experience. Trainees are assigned as instructional aides to work in the Early Childhood Programs of the Philadelphia School District, including Get Set, Head Start, Follow Through and kindergarten through the primary grades. Supervision and in-service training are provided by COP Resource Teachers. Participants who hold high school diplomas are enrolled for their first college-level courses as part-time students in an Associate of Arts degree program at the Community College of Philadelphia. In addition to the academic studies, they earn

practicum credit for work in the classrooms to which they are assigned. Upon completion of the A.A. degree, students have the option of "spinning off" into other educational specialty areas or transferring to Temple University for professional training in the College of Education. The College is committed to accept 120 COP students into the Early Childhood and Elementary Education Department. Transfer credit is awarded for all applicable courses in which a grade of "C" or above has been attained, provided the total grade point average is at least 2.0.

Once admitted to Temple, the trainee continues to work in the classroom, while pursuing the regular undergraduate education program on a part-time basis. The course of study, combining required and elective elements, is tailored as closely as possible to the needs and goals of the individual student and those of the Career Opportunities Program. The sequence of work placements is geared to the progressive acquisition of those performance competencies considered necessary for an effective classroom teacher, and student teaching credit is earned for successful achievement in these experiences. Upon completion of the Temple program, COP students will earn the B.S. degree and be eligible for teacher certification in both Early Childhood and Elementary Education.

Title:	A course entitled "Educating the Culturally Different"
Location:	Plymouth State College
Sponsor:	Plymouth State College
Funding:	No separate funds
Size:	50 students per term 1 professor
Contact Personnel:	Michael L. Fischler, Assistant Professor Department of Education Plymouth State College Plymouth, New Hampshire 03264
Objectives:	To form positive, realistic, empathic attitudes that are necessary for the successful teaching of the disadvantaged child. To provide the student with an opportunity to become actively involved in ameliorating the social ills endemic to the disadvantaged populace of his community. To disseminate information regarding the nation's disadvantaged populace.
Description:	"Educating the Culturally Different" is a three-credit elective course of study taught by Assistant Professor Michael L. Fischler. The course attempts to accomplish its objectives by utilizing the following procedures:

Students use class time to work in both the cognitive and affective domains by examining all substantive research and data, and weaving it into presentations which produce both the internalization of information and the awareness and overt display of student emotions and cognitions. For example, the topic of "racial prejudice" is considered during the class's observance of "Hate Week" — students role play their way through the various theories of prejudice, consider each theory's viability, develop their own unique theories, and agree on some definition regarding the nature of prejudice.

Students are required to read several books dealing with ethnic minorities.

Students produce their own textbook on minorities. One semester's text was an integration of modules for the teaching of the disadvantaged and reports considering aspects of the disadvantaged.

Each student is required to become involved in a project. Projects are encouraged which fulfill the needs of the individual and of the community. For example, the class ran a community service organization called "Project Help." By simply picking up the telephone and calling one of three published numbers, members of the community could secure the services of a babysitter, taxi driver, home cleaner, etc. The course has provided some services to most sections of New Hampshire.

Title: The Portal Schools

Location: Temple University

Sponsor: College of Education
Philadelphia Public Schools

Funding: The emphasis of program selection for Portal Schools will be upon regularly established and budgeted Philadelphia Public School and Temple University programs. More programs will be added as federal, state, or private monies become available.

Size: At each of the four district schools there are:

Ten to twelve elementary student teachers each semester, full time.

Twenty-four to twenty-six methods students in their Junior year two mornings or afternoons per week each semester through two semesters.

Twenty-four to twenty-six Educational Psychology students tutoring three hours per week.

Contact Personnel: Rita J. Wolotkiewicz, Assistant Dean
College of Education
Temple University
Philadelphia, Pennsylvania 19122

Objectives:	To pool the resources of the Philadelphia Public Schools and Temple University. To create a total educational program that will individually meet the needs of each separate Portal School on its terms, wherein student instruction, teachers' preservice education, staff development, and community involvement are interwoven.
Description:	The Portal Schools are an outcome of a mutual agreement among the Philadelphia Public Schools, the school community, and Temple University to pool their personnel and materials. Teacher education students from Temple University do practice teaching at nearby inner-city schools. They receive three hours of free tuition credit for in-service courses. Students may work several hours per week or full time, depending on their major. The Portal Schools arrange to have regular teachers released from their duties when it is necessary for them to participate in orientation of Temple students, meetings with Temple staff, etc. A special feature of the Portal Schools is their Advisory Boards, designed to bring community expertise to an educational setting. These Boards are made up of representatives from the school, the university, the union, the community, and, in some cases, the students. The Boards provide constant input for and evaluation of the Portal Schools.
Additional Information:	The success of the program has led to its expansion to a total of eight elementary schools and one middle school for the year 1972-73.

Title:	Bilingual Program for Teachers of Spanish Origin
Location:	Temple University Philadelphia School District
Sponsor:	Title VII of the Bilingual Education Act EPDA, B2
Funding:	Information not available
Size:	110 trainees
Contact Personnel:	Dr. Evan Sorber, Associate Dean The Graduate School Temple University Philadelphia, Pennsylvania 19122
Objective:	To utilize native Spanish-speaking professionals residing in the Philadelphia area as teachers.
Description:	At the present time there are approximately 10,000 Spanish-speaking pupils enrolled in the Philadelphia schools. To implement the bilingual programs of the School District of Philadelphia, Temple University, in conjunction with the Pennsylvania Department of Education, has inaugurated a special

certification program. Approximately 104 trainees have completed the initial summer preservice program (1969-1971) and are now pursuing state-approved B.S. or M.Ed. degrees and permanent certification.

The bilingual teacher education program is conducted in three phases:

Phase one consists of an intensive eight-week summer session which combines course work at Temple and field experience with Spanish-speaking children in learning centers provided by the Philadelphia school system. Prospective teachers do supervised student teaching in the mornings and come to Temple in the afternoon for seminars and methods courses.

Phase two concentrates on in-service training. Participants are supervised on the job during the academic year while they continue to take six semester hours of credit each semester at Temple University.

Phase three emphasizes the academic nature of the program. Each participant must take twelve semester hours of university credit sometime during the three summer sessions at Temple.

The bilingual education project optimizes the use of professional personnel in the Spanish-speaking community. Bilingual teachers contribute to the learning process of their students by being able to converse both in English and Spanish. Teachers of Spanish origin are able to identify both linguistically and culturally with Spanish-speaking students and their parents. The combination of professional expertise from the School District of Philadelphia and Temple University has improved the quality of teaching and learning immensely in the bilingual centers of Philadelphia.

Title:	PEERS (Pennsylvania Exchange of Education, Residence, and Service)
Location:	Westminster College
Sponsors:	Presbytery of Shenango Presbytery of Philadelphia Synod of Pennsylvania Board of Christian Education West Philadelphia Community Groups Private donors
Funding:	$8,000 per year
Size:	25 high school students 25 college students 1 faculty member
Contact Personnel:	Dean Kenneth Long Westminster College New Wilmington, Pennsylvania 16142

Objective:	To create a genuine cultural exchange between a church college and a public school system.
Description:	Twenty-five inner-city high school students spend the month of January at Westminster College, taking courses, staying in dormitories, and participating in campus activities. Westminster students tutor them in high school subjects so they can keep pace with their classmates and complete a college course at the same time. Twenty-five Westminster College students live in the inner city of Philadelphia with families in the community. They serve as instructional aides in District Five Schools and join in local service programs. Westminster has a special January term, lodged between two semesters which permits concentrated courses, independent study, and special programs such as PEERS.

Title:	Classroom Specialist in Teacher Education Program
Location:	The University of Dayton
Sponsors:	The University of Dayton Dayton School System
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Simon J. Chavez, Director The Department of Elementary Education The University of Dayton Dayton, Ohio 45409
Objectives:	The classroom specialist should be able: To demonstrate theory in practice. To serve as a model for learners. To demonstrate group dynamics in action. To effectively use instructional media. To analyze the teaching behavior of the prospective teacher. To participate in continuous curriculum development.
Description:	The Classroom Specialist Program provides supervising teachers with an opportunity to prepare themselves to function as specialists in teacher education in order to provide optimum preservice laboratory experience for student teachers. The Educational Plan is as follows: The University should provide leadership in teacher education. It should: A. Present a design of the program and course proposals by: 1. Proposing a conceptual design to use as a point of departure in developing a new program of Classroom Specialist in Teacher Education.

2. Creating an operational design to be developed jointly with the school system.
3. Providing for initial participation of prospective classroom specialists in the planning.

B. Develop a program of teacher education at the graduate level to meet the needs of the participating teachers. Such courses as Interaction Analysis, Instructional Media, Diagnosis, Curriculum Development, Supervision, and Differentiated Staffing and Its Implications should be offered. Some courses should be available off campus.

C. Plan for public recognition of the classroom specialist as a key person in teacher education by providing university privileges, university title, and by seeking state certification of this role.

Title:	Elementary Teacher Education Program
Location:	Oregon State University
Sponsor:	State of Oregon
Funding:	Information not available
Size:	180-200 students certified per year 10 faculty (FTE)
Contact Personnel:	J. H. Armitage, Director Elementary Education School of Education Oregon State University Corvallis, Oregon 97331
Objectives:	To provide students with continuous and extensive field experience and evaluation by professors and cooperating teachers throughout the four-year program. To involve the University, school districts, teachers, principals, and students in cooperative spirit. To offer experience in a wide variety of levels and types of classroom organizations in the field-centered program. To personalize the curriculum to allow each individual to identify and set personal goals in terms of identified needs within necessary guidelines. To develop the ability in prospective teachers to understand cultural pluralism and to develop programs to meet the needs of culturally different people. To train teachers who: 1. Derive their roles from diagnostic information about the student and his purposes. 2. Are value-involved with pupils. 3. Are committed to human values and the full capacitation of each pupil through a "helping relationship."

Description:

The Oregon State Teacher Education Program requires that every student participate in four basic experience levels — Preprofessional Block (sophomore level), Junior Block, Reading (junior level), and Student Teaching (senior level). Contemporary Education (freshman level) and Resident Teaching or practicum (post student teaching, senior level) complement this basic offering. Other practicum experiences are available throughout the program.

The concept of the clinical aspect of field experience has been implemented at all but the freshman level of the professional preparation ladder. Preprofessional Block, under Foundations Division, has teams with individuals assigned to specific schools. Junior Block, Student Teaching, and Resident Teaching Instruction and Supervision have been structured to allow university staff to devote approximately half their time (more in several cases) to work on site in the field. Single individual responsibility for all three levels in one school is a goal which has almost been achieved. This on-site role provides opportunity for much more extensive and careful supervision as well as for OSU contribution of human resources to the school program.

Activities and content of teacher in-service seminars also emphasize the clinical approach, as the teachers are expected to return to the classroom and apply these skills and ideas in consort with children, teaching students, and university staff.

Differentiated staffing within the university staff, within the individual schools, and cooperatively between the two has thus become a major force in evolving a clinical approach to field experience. Professors are held accountable to students and public school evaluation in all aspects of the assignments.

Title: World of Work — Student Teacher Curriculum

Location: Youngstown State University

Sponsor: Youngstown State University

Funding: No separate funds for student teachers

Size: 30 students
2 faculty

Contact Personnel: Margaret Braden, Chairwoman
Elementary Education
Youngstown State University
Youngstown, Ohio 44503

Objectives:

To give student teachers an opportunity to observe teaching a "world of work" curriculum.

To develop in prospective teachers greater insight and respect for work.

Description: The World of Work program in grades K-6 attempts to (1) give children in nine Warren, Ohio, school districts an awareness of the many career opportunities; (2) show them what is done in various occupations; and (3) motivate them to want to be part of the working world.

The University participates in the program each academic quarter by inviting students in elementary social studies methods classes to participate in the World of Work on a voluntary basis (1) by visiting the Warren schools, (2) by accompanying children on field trips, and (3) by assisting the curriculum specialist in Warren in selecting learning materials relevant to the "workers" under study. As a major part of the course requirement, the university student develops an individualized learning packet. The better packets have been copyrighted and may be obtained from: Mr. Michael Zockle, Director of World of Work, Warren City Schools, Warren, Ohio.

Title: Teacher Education Center

Location: Youngstown State University

Sponsor: Youngstown State University

Funding: No separate funds

Size: 7-13 students in each student teaching center
25 students in each methods center
3-4 faculty in each methods center

Contact Personnel: Margaret Braden, Chairwoman
Elementary Education
Youngstown State University
Youngstown, Ohio 44503

Objectives: To provide enriched educational opportunity for elementary pupils through small group and individual instruction by university students.

To give junior college level students an opportunity to determine if teaching is the right career choice for them.

To alleviate the fragmented nature of the typical teacher education program by removing the artificial theory as traditionally taught in colleges and replacing it with application in schools.

Description: The Teacher Education Center attempts to meld theory and practice. University students spend ten weeks in the elementary school with three weeks devoted to intensive theory via lecture. Students are required to develop certain personal competencies. These are developed through large group, small class, or individual instruction. Students become well-informed about team teaching.

Title: A Cooperative Venture in Teacher Education

Location:	Creighton University
Sponsor:	Creighton University
Funding:	Information not available
Size:	300 students Faculty of the Education Department
Contact Personnel:	Dr. E. B. O'Connor, Chairman College of Education Teacher Education Section Creighton University Omaha, Nebraska 68131
Objectives:	To add greater personal meaning to the student's course of study. To relate tutoring experience with textbook theory in a meaningful way. To begin developing the student's skills of self-expression in communicating with school children. To give students an awareness of the responsibilities of a professional teacher from the standpoint of the student-teacher interaction.
Description:	The Teacher Education program at Creighton University is a four-year sequence divided into three phases. Phase I of the program is intended to provide personal experience in a pupil-tutor situation at the outset of a student's professional education career. As part of the first course, Introduction to Professional Education, Creighton students assist in tutoring in non-school settings at community service agencies for youth. On a scheduled basis the student visits the agency and tutors one child, often in reading or arithmetic. Consequently, the student gains a personal acquaintance with the child, learning his habits, reactions, and family life. Students provide the tutoring service on their own and without pay. One semester hour of credit may be earned. Phase II of the program involves serving as a teacher aide in one of eight public and four private school systems that participate in the program. During the first semester, the teacher aide becomes involved in non-instructional duties. During the second semester the aide helps prepare instructional materials and bulletin board displays, supervises seatwork, works with small enrichment and remedial groups, and assists individual students who have special instructional needs. Typically, teacher aiding is done in the junior year and students receive one or two hours of credit depending upon the amount of time spent in the schools. Phase III of the cooperative endeavor provides for two semesters of student teaching. Students spend a minimum of four hours per day, five days a week for thirty weeks in this effort.

The usual procedure is to spend one semester in one school, and the second semester in a different school or school system. Usually the two semester experience takes place in an inner-city school as well as in a school in the suburban area.

Title:	Teacher Preparation Program (TPP)
Location:	Immaculate Heart College
Sponsors:	Borman Foundation Merrill Foundation
Funding:	Borman: $20,000 Merrill: $35,000
Size:	75-100 students (total) 3 faculty
Contact Personnel:	Patricia Barlow, Coordinator Teacher Preparation Program Immaculate Heart College 2021 N. Western Avenue Los Angeles, California 90027
Objectives:	To offer prospective teachers the opportunity: To develop the ability to make choices and to become responsible for decisions. To develop the ability to reflect critically on their experiences. To find personal definitions of teaching and learning. To increase their understanding of various educational methodologies. To develop open-ended attitudes toward teaching, learning, and authority. To increase their awareness of individual interests, needs, and goals. To develop the ability to relate with others at different stages of development. To create a personal teaching/learning style.
Description:	The Teacher Preparation Program has no checklist of required courses. Through close counseling, combined with course and field work, each student learns to identify his own needs. This process is consistent with the philosophy of the program that no two people need exactly the same preparation for teaching. During the years leading up to student teaching, the student is required to discover his own teaching-learning style, to develop a personal philosophy of education, and eventually to negotiate a student teaching experience with one or two of the teachers with whom he has come in contact. In this whole process the student is assisted, during the four years, by a TPP counselor as well as by a Review Committee chosen by the student.

Field experiences consist chiefly of the following:

Early and continuing observation of many and varied learning situations, thus expanding the student's awareness of the range of differences in teaching style.

Continuing practice, with increasing responsibility, in many and varied learning situations, thereby expanding the student's awareness of his own capacities and natural style.

A student teaching experience which grows, where possible, out of previous participation in a given school or educational environment.

Reflection and dialogue on values, content, and methods encountered through a series of concurrent seminars.

Title: The University of Northern Colorado Early Field Experience Program in Teacher Education

Location: University of Northern Colorado

Sponsor: University of Northern Colorado

Funding: Information not available

Size: 300 students per year
1 faculty supervisor

Contact Personnel: Dr. Richard L. Bear, Associate Dean
College of Education
Administration Offices McKee 518
University of Northern Colorado
Greeley, Colorado 80631

Objective: To provide experience with elementary and secondary pupils for teacher education students by placing them within the area school system.

Description: The major component of the Early Field Experience Program at the University of Northern Colorado is an elective teacher aide course, EDFE 270, which is open to all undergraduate students. Students may enroll in the teacher aide course for one to four hours of credit per quarter. Each student indicates the grade level or subject area in which he would like to work and is then assigned to a teacher in one of the area elementary or secondary schools. For each hour of university credit the student must work in the school for a minimum of twenty hours during the quarter.

Once students register for EDFE 270 and list their preferences for schools and grade levels, the Coordinator of Early Field Experiences contacts the principals in these schools and the students are assigned to individual teachers. An orientation seminar is then held for the students at which time they are given their assignments. Each student subsequently contacts the teacher to whom he has been assigned and together they determine the days and times that the student will work as a teacher aide during that quarter.

	At mid-quarter, small group seminars are held for all teacher aides, and a final large group seminar is held at the end of the quarter. Since the purpose of the program is to provide the students with a non-threatening experience in the schools, they are not observed or visited by university consultants. Their supervising teachers in the schools complete an evaluation checklist which is sent to the university. All teacher aides are evaluated on a satisfactory-unsatisfactory basis and, in general, a student who completes the required number of hours in the school and who attends the three university seminars receives a satisfactory grade.
Additional Information:	Hopefully, the experience will tend to serve as a self-selection device for those freshmen and sophomores who are considering teacher education programs. Data collected thus far indicate that the experience strengthens the interest of most aides in teaching although a small percentage of aides do realize that teaching is not for them.
Title:	MAT Program (Master of Arts in Teaching)
Location:	University of New Hampshire
Sponsors:	Information not available
Size:	15 elementary interns 25 secondary interns Faculty of the Department of Education
Contact Personnel:	John G. Chalfas, Coordinator Elementary MAT Program Department of Education Morrill Hall University of New Hampshire Durham, New Hampshire 03824
Objective:	To help interns develop into knowledgeable, caring, humanistically-oriented teachers able to help children achieve the intellectual and social skills necessary to function with others in a rapidly changing world.
Description:	During one academic year and two summers, candidates participate in a practicum, graduate seminars in education methodology and foundations, graduate courses in fields of specialization or related fields, and a teaching internship in a public or private school system or in other agencies that service the educational needs of the community. Realizing that in the past teachers often have been trained in classroom methods and theory that have little relationship to actual classroom experience, the MAT Program attempts through field experience and concurrent on-campus seminars to help interns translate theory into practice.

Because applicants come from a variety of backgrounds, the number of interns is limited to keep the program as flexible as possible and to meet individual needs. Anyone may apply who (1) has successfully completed a general undergraduate program with some or no work in professional education, (2) wants to begin a different career, or (3) has no certificate or little teaching experience.

The program consists of four phases:

Phase I is an assessment summer course designed to help interns assess the teacher role and themselves in regard to that role and to allow the MAT staff to assess the interns.

Phase II (fall semester) involves the teaching internship, seminars, graduate electives, and an individual project.

Phase III continues the activities of the previous phase through spring semester.

Phase IV is a post-internship summer session designed to allow further specialization and the completion of seminars and individual projects.

Candidates generally assume one-half of a normal teaching load for the entire school year, although each internship may differ to fit the specific needs of the cooperating school and the intern. The elementary and secondary internships, though similar in many ways, differ in some important respects.

Elementary Internship: Internships are available with teachers who are attempting innovative programs in their classrooms. Interns are encouraged by the MAT staff to develop a personal style of teaching while becoming more creative, sensitive, caring teachers. The British Primary School is utilized as a kind of visible model, but each person is expected to deviate from this model in accordance with his personal needs and goals.

Elementary interns generally do not receive a stipend. During the second summer, however, some interns may be invited to join the MAT instructional staff as associates for the Phase I summer practicum. These interns receive small stipends.

Secondary Internships: Secondary interns, unlike the elementary interns, generally assume responsibility for their classes, working either alone in more traditional staffing models or in teaching teams. Interns *may* receive stipends depending upon district policy, the situation, and the degree of intern responsibility.

This curriculum is intended to provide the MAT student with skills that enable him both to deal effectively with the realities of today's schools and to create new models of learning in his classroom. In effect, the program aims to prepare the teacher of tomorrow *today*, a teacher who will be an agent of change in his own classroom and thus hopefully serve as a model for his colleagues to follow.

Title:	Secondary Education Block
Location:	Mankato State College
Sponsors:	Center for Cultural and Behavioral Education Center for Curriculum and Learning Strategies
Funding:	Information not available
Size:	85 students 5 faculty
Contact Personnel:	Ruth McNeal, Administrative Assistant School of Education Mankato State College Mankato, Minnesota 56001
Objectives:	To provide a flexible structure in which both required instruction and individualization may take place. To allow for individual differences in time and material required for maximum learning. To provide students the opportunity to begin relating teaching theory to actual classroom experiences. To provide experiences for students in inner-city schools and communities conducive to growth in awareness and acceptance of cultural plurality. To allow instruction to proceed according to the newer and diverse strategies and techniques being promoted. To build positive relationships between inner-city people, the agencies and organizations that serve them and Mankato State College.
Description:	In order to accommodate the goals of the block, the required courses and minicourse options are scheduled into the first four weeks of the quarter. The classwork is quite intense and students often spend six hours per day in class. As related blocks of instruction are completed, students are placed in schools to observe first-hand those concepts they have been exposed to in theory. During the remaining six weeks of the quarter, students are assigned on a rotating basis to a two-week experience in the St. Paul inner-city schools. During that time they live in the Awareness House, a large three-story home located in the heart of the inner city and owned by Mankato State College. The on-campus period of this rotation is spent attending optional mini-courses, pursuing independently contracted study, participating in other school situations, or a combination of all three. In order to produce sufficient flexibility but maintain a clear-cut system of accountability, the 15 credit hours for which students enroll are subdivided into 150 modular credits. All activities undertaken and completed in this block by students result in a predetermined number of mod credits. Subdividing the 15 credit hours into modular credits allows the students to choose

among many instructional units which are offered as mini-courses within the block. The instructional units are topical units and are usually between one and three days in duration. Additionally, the students are encouraged to design some of their own learning experiences and to contract for modular credits for the experiences.

Students are required to spend two weeks in inner-city schools in St. Paul as observers and participants. Concomitant with this experience, numerous opportunities for exposure to and involvement in inner-city community life are provided. In their field experiences the students are not expected to assume the role of student teacher. The exact nature of each student's assignment is primarily worked out by the supervising teacher. In addition to the inner-city experience, block students are required to spend the equivalent of one week in a District #77 (Mankato) secondary school.

Title: Teacher Education Program

Location: Southeastern Louisiana University

Sponsor: State Board of Education

Funding: Information not available

Size: 600 Elementary and Early Childhood students
600 Secondary students
30 faculty

Contact Personnel: Dr. Walter Butler, Head
Department of Education
Southeastern Louisiana University
University Station
Hammond, Louisiana 70401

Objectives: To prepare teachers who are sensitized to the broad subcultural entities of the society, and who are equipped to engage in a personalized teaching-learning environment.

To test and demonstrate leading innovative trends in nursery school through graduate-level education.

To carry out and report meaningful action research relating to the teaching-learning process and teacher education in general.

Description: The professional program in Elementary Education has been redesigned into large blocks of time allowing for faculty team efforts and in-school laboratory experiences for all Teacher Education majors. The program emphasizes competency-based performance criteria.

The secondary program is designed very much like the elementary program. In both cases, there is a progressive fusion of theory and practice in the preparation of teachers.

An added dimension of the Teacher Education Program is the

Outdoor Classroom, which emphasizes the open concept in practice and physical design. The Outdoor Classroom offers every academic department the opportunity to move instructional programs into a natural environment.

Title:	The Austin Teacher Program
Location:	Austin College
Sponsor:	Austin College
Funding:	Information not available
Size:	300 students 4 faculty
Contact Personnel:	Ms. Virginia H. Love, Chairman Teacher Education Department Austin College Sherman, Texas 75090
Objectives:	To enable the student to see the relevance of his education. To have the student learn by participating actively in his learning process. To teach the student to be open to new experiences and to be willing to change his attitudes and ideas.
Description:	The five-year Austin Teacher Program is based on a liberal arts education. During the four undergraduate years that lead to the baccalaureate degree, the student gains nonacademic credit for laboratory experience in teacher education. This experience stimulates self-assessment and examination of the patterns of behavior that are characteristic of effective teaching and it encourages participation in programs that involve the student with the learning process. Together, the student and faculty develop a strategy to capitalize on strengths, overcome deficiencies, and develop a personal approach to teaching that is in harmony with the student's life style and goals. The fifth year culminates in a series of teacher-related experiences. During this year, the student spends one term in an intensive teaching partnership with certified teachers. Because the Austin Teacher Program is individualized, great responsibility is placed on the student to assume an active role in every facet of the teaching-learning process. During the fifth year, the student also completes a research project which gives him additional insight into teaching and learning functions. He devotes one term to the extension of his liberal arts background, selecting his experiences according to his individual needs. Upon completion of the program the student earns a Master of Arts Degree and an elementary or secondary teaching certificate.

PART II

Group II Professions

5/ The Agriculture-related Professions

The appearance of agriculture in this listing of professional occupations involved in social issues may come as somewhat of a surprise to the reader. Agriculture itself is not normally classified as a profession; however, a large university includes professional occupations normally subsumed under the agriculture umbrella. These agricultural occupations appear to be directly related to extraordinarily important social problems. Foremost among these are the effects of insecticides, the production and distribution of food, and the management of natural resources.

EFFECTS OF INSECTICIDES

The effects of insecticides, such as DDT and other chemical applications, are now becoming known. Society thus will expect professionals conducting insecticide research to develop a sense of social responsibility commensurate with these developments. At the least, the public will expect careful consideration of the potential side effects of insecticides. The researchers, on the other hand, now assert — as do most other Group II professionals — that their latitude as employees of business concerns is small. Clearly, then, considerable examination into the process of fixing responsibilities within business firms and of establishing checks and controls on business are in order.

FOOD DISTRIBUTION

Perhaps even if there were philosophic agreement about what the United States should do in reducing world hunger (issues involve contraception and other forms of population control and feeding the geometrically increasing offspring of those fed today), the public might still be quite unsure as to how American colleges of agriculture could better prepare their students. Among the marvels of this century have been the fantastic gains in the agricultural output of this nation, gains which in large measure have resulted from the efforts of the schools of agriculture of land-grant universities. Such success may have created one area in which there is relatively little room for improvement.

MANAGEMENT OF NATURAL RESOURCES

Care of the forest is of concern to all of those who appreciate the great outdoors. "Classically, management of forest resources meant manipulating or regulating their (harvest) and assuring their replacement for a sustained yield of raw materials."[1] The cardinal value taught in classical schools of forestry was that a good forest was a producing forest (lumber, wood pulp, etc.). Increasingly, however, forestry professionals are beginning to "recognize and accommodate the nonutilitarian functions of the forest" although "many of these demands may seem alien to or incompatible with classical forestry."[2] Foresters are coming to realize that a forest may produce in many relatively new ways; camping, hunting and fishing, and hiking all show an important return. A forest may produce more in psychic and even dollar income through these uses than through many of the more traditional forest practices. These traditional practices may even destroy the aesthetic value of a forest for long periods. There is little aesthetic value, for example, in a forest that has been block cut — though there may be significant other advantages. This practice may show a large immediate return, but a return realized as infrequently as every fifty years in areas where rainfall is slight.

Conservation and parks management are other occupations often allied with agriculture having important implications for society. Any person who has traveled down the Yellowstone Highway in July or August or merely tried to locate a spot for his camper after 3 p.m. on a summer afternoon is all too aware that enough good quality recreation land is not available. As for the implications to professional education, at the very least we need more and better trained professionals: park managers, foresters, and game managers.[3]

[1]Richard W. Jones, "Forestry's Changing Ecology," *Environmental Education* 2 (Winter 1970): 29-31.

[2]Ibid.

[3]Ibid.

THE EXEMPLARY PROGRAMS

This section abstracts twelve professional education programs that clearly seek to answer these emerging demands. Two of these programs focus on the training of agricultural professionals, per se, while the other nine center upon preparing professional foresters and professionals of related fields, such as natural resource management and resource conservation. (The remaining program is in-service training for leaders in California's agricultural production and agribusiness.)

The dominant objective of the eleven degree programs appears to be to instill appropriate new values in neophyte professionals, with the cardinal value being to insure that human needs, not profit or the satisfaction of esoteric technical specifications, determine resource management policy. In the words of one institution, a resource manager is a "steward of public resources." "Broadening the perspectives of professionals," and "general education as a core (more than a base) for professional study" are phrases found listed in the promotional literature of these programs. Enhancement of the "social aspects of forestry," in order to "meet human needs" or to show the "relationship of human needs to forestry" characterize the objectives of these programs. The content for these efforts is often the study of ecology and man/ecosystems relationships, with a heavy emphasis upon allied experience in the field.

Most of these programs are based clearly upon the assumption that professional attitudes are a basic factor in solving pressing societal problems. The attainment of technical competencies is a goal routinely met, but the manner in which those competencies will be put to use requires close and constant attention in the training program. The infusion of new values, orientations, and perspectives is the difficult task of these exemplary programs; but it is precisely this infusion that is fundamental to changing the behaviors of professionals vis-à-vis the quantity of professionals, service modes, and delivery systems required by new societal needs.

Title:	Environmental and Resource Management
Location:	State University of New York at Syracuse
Sponsor:	New York State
Funding:	$593,000 for 1973-74
Size:	425 undergraduate students 110 graduate students 28 faculty
Contact Personnel:	Dr. Charles C. Larson, Dean School of Environmental and Resource Management

College of Environmental Science and Forestry
State University of New York
Syracuse, New York 13210

Objectives:

To prepare students for professional forestry.

To emphasize development of the following qualities:

Analytical ability and balanced judgment.

Capacity to solve problems in a sound and well-organized manner.

Vigor of mind and imagination.

Ability to communicate and work harmoniously with — and lead — others.

Understanding of human behavior and of social, political, and economic forces within our society and the world at large.

Adherence to high principles under stress conditions.

Ability to keep an open mind, to think for one's self, and to continue learning on one's own initiative.

A sense of dignity, purpose, and self-fulfillment in one's work; specifically, enthusiasm for the profession of forestry and an appreciation of its responsibilities to society.

Capacity to live a creative, humane, and sensitive life — and to think about the meaning of life and of knowledge and of the relations between them.

Description:

The School views its area of study as encompassing a wide range of forest and related environmental and resource values (products), not simply or primarily timber. It is concerned with the production and the consumption of these products. Finally, in its approach to these functions its interest centers on the whole process of human choice, especially as the latter involves freedom to make choices based on the merits of each case.

The undergraduate curriculum in Resources Management is the oldest curriculum of the College and fulfills the requirements for professional forestry education as defined by the Society of American Foresters. Instruction emphasizes management-planning, decision making, and the implementation of policy concerning forest and forest-related resources. "Forest resources" include timber, forage, water, wildlife, and recreational and aesthetic environments. "Related resources" include human enterprise and labor, the resources of the consumer, and the facilities for transferring forest assets into the hands of the consumer.

The graduate programs of study and research include management science, forest resources science, conservation, education and communications, applied management, environmental studies, urban forestry, world forestry, and regional planning. These constitute elective minors for the undergraduate curriculum. Through its combined functions of instruction,

research, and public service, the School seeks to instill within its students and the public at large a sense of enlightened stewardship of forest land and related resources for human benefit.

Title:	California Agriculture Leadership Program
Location:	Agricultural Education Foundation San Mateo Fresno
Sponsors:	Agricultural Education Foundation Boswell Foundation Council of California Growers Irving Foundation Kellogg Foundation
Funding:	Information not available
Size:	30 students in Class One 30 students in Class Two 30 students in Class Three
Contact Personnel:	Gaylord L. Siner, Director of Education Agricultural Education Foundation 2220 Tulare Street, Suite 636 Fresno, California 93721
Objectives:	To broaden the experiences of the men who lead California's agricultural production and agribusiness. To expose these men to rural, urban, social, educational, artistic, and agribusiness problems on a state, national, and international level.
Description:	The three-year undertaking of the Agricultural Leadership Program has been developed in cooperation with leading educators at four major California universities. During the first year, a series of two-day, on-campus seminars in the fields of modern economics, social studies, and cultural developments is held. Meetings with marketing experts, labor leaders, and political figures are scheduled at the local and state level. The program for the second year involves study and activities related to agriculture at the national level. This includes meetings with national leaders and trips to other states and to Washington, D.C. Participants are exposed to the international implications of agriculture during the third year. International trade, balance of payments, and the economic state of agriculture in foreign trade are areas included in this final year of the leadership program.

Title:	Interdepartmental Major in Natural Resources — An Optimum Natural Resources Conservation Education
Location:	Colorado State University
Sponsor:	Colorado State University
Funding:	Information not available
Size:	210 students 2 faculty members
Contact Personnel:	Dr. Charles Mahoney, Associate Professor College of Forestry and Natural Resources Colorado State University Fort Collins, Colorado 80521
Objectives:	To provide a program of study for students who wish to obtain a general education in the broad area of natural resources management through a planned curriculum with ample opportunity for electives. To provide an opportunity for general education and awareness in the natural resources-related professions and ecology. To formalize a program of study and a system of advising for students listed as "forestry-undecided" who want a broad education in the natural resources professions rather than an in-depth study of any particular natural resource discipline.
Description:	This major is offered for the student who wants a general education in the broad spectrum of natural resources, ecology, and management. The program is structured to give a multiple use or an interdisciplinary approach to problems and opportunities within the natural environment. Furthermore, the student has an opportunity to take additional courses in the social sciences and humanities. Two hundred credits are needed for graduation; at least 60 credits must be from the College of Forestry and Natural Resources. Superior students may elect to do work in a specific natural resources field of study.

Title:	Forest Science and Wood Science
Location:	University of Illinois
Sponsors:	State of Illinois Federal Hatch funds Federal Smith-Level funds
Funding:	$280,000 for teaching (1972-73) $115,000 for research (1972-73)
Size:	206 undergraduate students 18 graduate students 19 faculty who hold joint teaching, extension, and research appointments

Objectives:

To provide students with a solid foundation in the physical and biological sciences which, when coupled with sufficient knowledge of the social sciences, humanities, and communications, will provide the background and skills needed in evaluating resource management problems and making sound professional decisions.

To provide technical instruction and guidance that will lead to professional competence in forestry and natural resource management.

To provide a curriculum that not only offers a broad educational experience, but also permits students to study in areas of special interest, either as undergraduates or as candidates for advanced degrees.

To develop among students an awareness and appreciation of the social as well as the biological aspects of forestry.

Description:

There are two four-year curricula in forestry leading to the degree of Bachelor of Science in Forestry. The curriculum in forest science prepares students for management of forest properties for production of wood products, wildlife habitat, recreational enjoyment, or other benefits. The curriculum in wood science prepares students to work with wood as a basic raw material. Graduates enter positions requiring a sound knowledge of anatomical, physical, and strength properties of wood. Graduates of both curricula may be employed in industry; by federal, state, or local government; by universities and colleges; or may operate their own business or consulting service.

Title: School of Forest Resources

Location: The University of Georgia

Sponsor: State of Georgia

Funding: $1,000,000 for 1973

Size: 233 undergraduate students
68 graduate students
36 faculty

Contact Personnel: Dr. A. M. Herrick, Dean
School of Forest Resources
The University of Georgia
Athens, Georgia 30602

Objectives:

To provide challenging opportunities for students to obtain an education which equips them to respond, as future practitioners and scientists, to the need to obtain optimum human benefits from forest resources through:

Understanding of the forest environment.

Competent application of professional skills.

Skillful explanation of forest resource management, philosophy, policies, and procedures to society at large.

Description:	"Besides obtaining the 60 professional core credits, each student must complete 45 hours of course work, prescribed or approved by his advisor, in his chosen area of concentration, making a total of 105 quarter hours in the professional program. Concentrations are available in: timber management and utilization; watershed management; fish and wildlife biology; forest resources planning and administration; and forestry sciences." (*University of Georgia Bulletin*, 1971-73, page 119.) Up-to-date classroom and laboratory facilities and forest properties for field projects enhance the student's academic growth. A self-learning laboratory, being developed in several stages, enriches classroom and laboratory experiences by permitting students to individually review information by means of additional audio-visual resources. The School of Forest Resources offers degree programs leading to the Bachelor of Science in Forest Resources, while the master's and doctor's degrees are offered at the graduate level.
Title:	Forestry and Outdoor Recreation Resources
Location:	Iowa State University
Sponsors:	Department of Forestry Federal McIntire-Stennis Cooperative Forest Research Funds
Funding:	$386,000 per year
Size:	325 undergraduate students 25 graduate students
Contact Personnel:	Henry W. Webster, Head Department of Forestry Iowa State University 251 Bessey Hall Ames, Iowa 50010
Objective:	To educate land resource managers who are capable of recognizing changing societal demands and biological restraints on the capacity of resources to meet human needs.
Description:	The sequence of senior courses seeks to integrate social, economic, administrative, political, and biological concepts in resource management. Relevant courses in other departments that deal with social implications of resource management are added to this curriculum.
Title:	Undergraduate Program in the School of Forest Resources and Conservation
Location:	University of Florida
Sponsors:	State Board of Regents, through state legislative appropriations to the Institute of Food and Agricultural Sciences

Funding:	$170,000 teaching budget $400,000 research budget
Size:	160 upper-division students *14 Faculty*
Contact Personnel:	Professor C. M. Kaufman School of Forest Resources and Conservation 305 Rolfs Hall University of Florida Gainesville, Florida 32601
Objective:	To provide an adequate foundation core in the broad areas of natural resource ecology and management and man/ecosystem needs and relationships.
Description:	The basic components of the undergraduate program are:

	Credits
Preprofessional	96
Core for all students of the School	
Field 15	
Campus 19	34
Electives (To be selected with a counselor.)	70
Students desiring to qualify for a specialty (forest management, wildlife ecology, etc.) must meet specific requirements for such respective fields.	
TOTAL	200

The initial encounter in the school, after completion of the preprofessional program at a university or junior college, is in the field program of 15 credits (one quarter) designed to introduce natural phenomena as part of a system that can be identified, defined, and continue as a dynamic entity unless destroyed. Thus, rather than starting as wildlife managers, foresters, recreationists, etc., the students are participants in an ecosystem (or systems) to which each will train himself to contribute a specialty.

In the campus phase of the core, the first three courses are designed to be taken early in the professional program. *Forest Resources Management*, however, is most effectively taken in one of the final quarters, after the student has had courses in principles of management within his specialty.

Title:	Wildlife Resources
Location:	University of Maine
Sponsors:	University of Maine Maine Department of Inland Fisheries and Game Bureau of Sport Fisheries and Wildlife Wildlife Management Institute

Funding:	$200,000 per year
Size:	125 undergraduate students 20 graduate students 7 faculty
Contact Personnel:	Dr. M. W. Coulter, Associate Director for Wildlife School of Forest Resources University of Maine Orono, Maine 04473
Objective:	To provide education and research in the area of wildlife ecology.
Description:	This program is generally typical of wildlife management programs nationally. However, in addition to completing the regular curriculum requirements, each undergraduate completes a mandatory six-week summer field session in ecology.

Title:	School of Forestry
Location:	Northern Arizona University
Sponsor:	Northern Arizona University
Funding:	$238,000 per year
Size:	85 upperclassmen 12 faculty
Contact Personnel:	Dr. Charles O. Minor, Dean School of Forestry Box 4098 Northern Arizona University Flagstaff, Arizona 86001
Objectives:	To train students to function efficiently and competently as professional foresters in complex modern society. To impart to students an understanding of the social and managerial problems facing the modern practice of forestry. To educate and train professional generalists.
Description:	Students enter the School of Forestry in the fall of the junior year and remain in the program for three consecutive semesters. All important aspects of the technical portion of forestry are introduced through detailed study of various vegetation types. In a highly integrated way, students are expected to learn the use of forestry tools, plant names, ecological relationships, and other basic aspects of forestry. Most of the fall semester is utilized for field studies, since it is possible to study lower-elevation areas during the colder weather. During the remainder of the junior year other important forestry concepts are presented to the students through the use of case studies. Specific geographic areas are chosen to introduce these

concepts in an integrated way. Various problems and techniques associated with each area are discussed and analyzed by the faculty and students. Examinations and individual reports are required.

Students are expected to take a job in forestry for the summer after their junior year. Most of the fall semester of the senior year is devoted to a very large and comprehensive examination and management plan for a large land area near Flagstaff. The area includes examples of all major types of wildland use. This project brings together most of the techniques and concepts taught in the junior year and is the culmination of the student's professional forestry education. The remainder of the fall semester of the senior year is devoted to individual projects — each student has an opportunity to work with one or more professors on two or three projects. This is an opportunity for the student to delve into some aspect of forestry which particularly interests him.

The program terminates at the end of the fall semester of the senior year, but students are required to take a final semester of course work outside forestry (spring semester of the senior year). This semester is included in the integrated curriculum. Each student has free choice of electives (probably including some on a pass-fail basis). Advisors work with each student; but, in general, this semester is very flexible.

While engaged in the three-semester forestry program, students are not permitted to take any course work outside forestry. They are expected to be available for field, laboratory, and classroom work at least three full days and two half-days per week.

Title:	Educational Opportunity Program for Graduate Students
Location:	The Pennsylvania State University
Sponsor:	Rockefeller Foundation
Funding:	$25,000 total
Size:	Variable
Contact Personnel:	Dr. William Henson 201 Weaver Building The Pennsylvania State University University Park, Pennsylvania 16802 or Dr. Jerome Pasto, Associate Dean Resident Education College of Agriculture 217 Agricultural Administration University Park, Pennsylvania 16802
Objectives:	To provide educational opportunities for the academically and economically disadvantaged at the graduate level.

To prepare people for high level skills in industry and government and for college and university teaching.

Description: The Educational Opportunity Program for Graduate Students provides an interim period of study following the bachelor's degree so that a student may strengthen academic weaknesses. Past experience has shown that students who wish to pursue the plant and animal sciences may be weak in biology, chemistry, or mathematics and that they may need from one to three terms (10 weeks each) of academic enrichment. Similar weaknesses exist in the graduate fields of agricultural economics and rural sociology except that the weaknesses are in the social sciences.

The undergraduate college, with a high proportion of black students, helps select qualified candidates for the program by consulting with staff members in the College of Agriculture regarding graduate entrance requirements and the appropriateness of various curricular offerings to graduate work in agriculture.

The College of Agriculture agrees to admit those EOP students who qualify for the M.S. program and to offer them assistantships that provide a stipend and tuition. After earning the M.S., qualified students may proceed to the Ph.D., which is again supported by College funds.

While strengthening their academic foundations, students are given $780 per ten-week term for tuition and living expenses. [Full time is devoted to studies.] The already qualified students receive regular half-time assistantships paying $800-$900 per term plus tuition. They are expected to contribute 20 hours per week to departmental projects.

Title: Honors Program in Forestry

Location: Auburn University

Sponsor: Auburn University

Funding: Information not available

Size: 5 students

Contact Personnel: Professor W. B. DeVall, Department Head
Department of Forestry
School of Agriculture
Auburn University
Auburn, Alabama 36830

Objectives: To provide able students the opportunity to explore in depth areas of forestry in which they are interested.

To provide the student a more rounded education by offering a flexible program.

To prepare able students for graduate school.

Description: Students with at least five quarters remaining in the Forest Management curriculum and with a grade-point average of 1.75 or better may apply for admission to the program following completion of the course work requirements of the first six quarters. Permission for election to the program rests with the Department Head and the Executive Council of the Department of Forestry. Upon admission, the student is assigned to a faculty adviser who guides him in the preparation of his program.

JUNIOR YEAR

First Quarter		*Second Quarter*	
Electives	18	AY 305 General Soils	5
		FY 203 Silvics I	5
		FY 309 Sampling	5
		Electives	3
		Total	18

Third Quarter	
FY 207 Silvics II	5
FY 421 For. Research Methodology	3
Electives	10
Total	18

SENIOR YEAR

First Quarter		*Second Quarter*	
FY 420 Silviculture	5	FY 438 For. Econ. II	3
FY 437 For. Econ. I	3	Electives	15
Electives	10		
Total	18	Total	18

Third Quarter	
FY 407 For. Management	5
FY 480 Senior Thesis	5
FY 490 Seminar in For.	1
Electives	6
Total	17

Total Program — 210 Quarter Hours

Title: Major in Environmental Resource Management

Location: The Pennsylvania State University

Sponsors: The Pennsylvania State University
Environmental Resources Commission

Funding: Information not available

Size: Variable

Contact Personnel:	Dr. Guy W. McKee 219 Tyson Building The Pennsylvania State University University Park, Pennsylvania 16802
Objectives:	To teach students (1) how to manage land and (2) the biological and ecological factors which help shape the quality and usefulness of man's outdoor environment. To train students in the management of the renewable natural resources that man must use for agriculture, forestry, wildlife, recreation, and aesthetic enjoyment.
Description:	Environmental Resource Management students will develop competence to deal with the conflicting uses of land and water resources and their utilization for agriculture, forestry, wildlife, recreation, aesthetic enjoyment, and regional and local planning. They will be trained to work with other professionals in reclaiming and restoring disturbed sites such as strip-mine spoil, mining waste, fly ash banks, transmission lines, and sanitary land-fill. In addition, they will study pollution of the air, water, and landscape in rural areas by farm and industrial wastes, municipal sewage effluents, and trash and litter materials. Graduates of the program will be concerned with the safe use of agricultural pesticides, the relationship between soil factors and land use, the disposal of waste products from the processing and production of agricultural and forest products, the multiple use of farm and forest lands, and the integration of crop requirements with environmental conditions to achieve high yields while maintaining quality. Environmental Resource Management students must also be concerned with some of the urban and industrial pollution problems since so much of the refuse, bad water, and air pollutants generated there can upset the ecosystem balance in rural areas.
Additional Information:	Graduates will find employment with governmental agencies at the federal, state, regional, and local levels. Practically every government of any size has, or is setting up, an environmental bureau. Public utilities and industries which use or affect renewable resources are developing procedures to carry out their functions while protecting the environment. Corporations that own mineral rights are acquiring a consciousness of their responsibility to the public and are opening their lands for multiple uses.

6/ Architecture

> The comfortable old realities are shattered when students begin seeing architecture as identical with life and with our society, and when established practitioners take part of their professional responsibility to be both a politician and a social activist. We need new ways of teaching within these frameworks, and some ideas are emerging now.[1]

This quotation seems to reflect what may be a new awareness in architecture, including landscape architecture. Lapidus' statement was based on a survey of professional practitioners and architecture students; and although the two groups differed significantly, there were some surprising areas of agreement.

There are movements within the profession to "broaden the natural and social base of landscape architecture and to improve the methods of landscape design."[2] Within landscape architecture there is a "heightened social concern in the context of the war on poverty, community participation programs, and advocacy planning . . . [and] after years of representation by others, the users of playgrounds — teenagers and children — were reestablished as the clients of landscape architects."[3]

Writings in the professional literature urge architects to exert themselves professionally by persisting in their efforts to preserve the aesthetic character of the environment while at the same time asking that structures reflect the desires of the community. Kaiser has shown empirically that the natural landscape is at best a secondary consideration by developers and home owners as they make their purchases;

[1] "Education in the 1970s: Teaching for an Altered Reality," *Architectural Record* 148 (October 1970): 128.

[2] Donald Applegard, "Elitists Versus the Public Outcry for Help," *Landscape Architecture* 61 (October 1970): 24-29.

[3] Ibid.

hence, architects "should exert their proper influence."[4] Schmertz carries this view forward:

> Today . . . architects are less doctrinaire; their approaches are empirical in a new way. At last they see how architectural and planning theories of the recent past with their too rigid social and esthetic preconceptions often help to despoil the environment and contribute to human misery . . . The good architect, in his professional role, and guided by his clients' best interests, more often than before will see the building or planning task within a context of broader values than the client may at the beginning consider relevant or appropriate.[5]

Yet, as Applegard has noted, few schools of architecture offer courses dealing with what really goes on in parks, open spaces, and plazas.[6] He points out that without some allowances in the budget and a faculty commitment to offer students a realistic social and psychological education, the challenge will not be met.

[4]Edward J. Kaiser, "Housing Location Decisions and the Natural Landscape," *Landscape Architecture* 60 (January 1970): 105-8.

[5]Mildred F. Schmertz, "Design for the 1970s: A New Professional Conscience," *Architectural Record* 148 (October 1970): 118-27.

[6]Applegard, "Elitists Versus the Public Outcry."

EXEMPLARY PROGRAMS

Whether one looks at the classical program in architecture or its varying subspecialties such as landscape architecture, environmental design, and urban and regional planning, an expanding architect's role emerges. No longer is the architect solely concerned with the aesthetic impact of design; he also must assume responsibility for the broader ramifications of the profession as it affects the total quality of life.

Programs in landscape architecture have begun to acknowledge the man-environment interrelationship; indeed, one-half of the programs studied emphasized responsibility to man in their statements of purpose. Those programs, with a focus on environmental design, appear to be carrying the banner of reform, in expanding both delivery systems and modes of service.

In addition to the usual student consultation with clients, several programs physically extend into the very community to be served. Yale University's Black Environmental Studies Team is dedicated to the development of effective roles for professionals who wish to confront design problems in low-income communities. From a public-service spirited, environmentally sound perspective, the Institute of Community and Area Development at the University of Georgia counsels and assists communities and state commissions in their planning. And, in one graduate program, the sole *raison d'etre* is to serve as liaison between campus-wide urban and environmental research activities and the sites of action.

There are other man-environment approaches. A majority of these programs also combine with the physical, natural, and social sciences for cooperative efforts. Some institutions have attacked the goal of improving the quality of life by means of more specific initiatives into environmental design as it applies to human ecology and the problems of the elderly.

Urban and regional planning programs, while largely devoted to the development of skills and the recognition of problems, include leadership and management courses stressing the necessity for sensitivity to the needs of society. Other exemplary efforts include centers such as the Rice Center for Community Design and Research and workshops such as the Portsmouth/Southside Community Workshop, both of which operate within the community setting and emphasize the training of "socially concerned architects."

The descriptions of programs in architecture reveal a conscious effort to instill a greater sense of social and professional responsibility in future practitioners. Combining an understanding of design with an appreciation for its potential effects on the natural environment, and extending the experience of students in urban planning to include

work at the specific site of the problem — the community — are two of the ways that programs in architecture are striving actively to educate socially responsive and responsible professionals.

Perhaps it should be said there is always a danger of stressing social responsiveness at the expense of social responsibility. This danger would seem to be greater in professions such as architecture where errors in professional judgment may not be as readily apparent as they are in medicine or social work, for example. Thus, there is a strong need to ensure that architectural education firmly insures those competencies that may be easily lost, with a degree of impunity, in a pragmatic world.

Title:	Bachelor of Architecture Program: Design Options
Location:	The University of Arizona
Sponsor:	The State of Arizona
Funding:	Information not available
Size:	420 students 21 faculty
Contact Personnel:	Robert E. McConnell, Dean College of Architecture The University of Arizona Tucson, Arizona 85721
Objective:	To allow students to use problem-solving techniques in finding solutions to design problems of clients and society that respond to human needs and the social and physical conditions of the times.
Description:	The Bachelor of Architecture program offers a standard pre-professional and professional curriculum. However, students have the option of taking design courses which present an opportunity to do field work in solving community problems. Many design options are offered annually for advanced students. Some deal with social concerns and others examine technical determinants. For example, one class undertook the task of helping an area of Tucson in a project in Urban Renovation. This was a large area populated by ethnic minorities, generally of Mexican descent. The resulting proposals from the class have diverted the construction of a freeway through the neighborhood, have stimulated new construction and renovation in the area and have given new life and purpose to the Barrio Libre of Tucson. This project is the epitome of social and professional responsibility, and, although outstandingly successful, is not unique.

Title:	Bachelor of Architecture Program
Location:	University of Maryland
Sponsor:	Office of Education
Funding:	Information not available
Size:	Number of students not available 22 faculty
Objectives:	To offer students the basic skills and knowledge needed to begin professional work. To prepare students for professional service in helping to ameliorate the nation's environmental problems.
Description:	The Bachelor of Architecture program reflects the School's efforts to expand the role of the architect from a narrow concern with building design to a broad concern for developmental change, from a preoccupation with aesthetics to a commitment to the enhancement of the quality of life. The program permits students to enter the School either directly from high school or after one year of general college work without extending the time required for completion of degree requirements. Students in the first year may take an introductory course in the history of architecture as well as general courses. In the second year, the student begins his professional education in the basic environmental design studio course as well as continuing his general education. The basic environmental design studio explores specific architectural problems as well as the problems inherent in making objects and spaces. In the third year, coordinated courses in design and building systems introduce the student to the ecological, physiographic, psysiological, social, and physical generators of architectural design; the student is also given an introduction into building technology. In the fourth year, this process is continued, but with an emphasis on urban design factors, the environmental context, the historical and situational context, urban systems, and theoretical, aesthetic, and sociological considerations. In the fifth year, the student is offered an opportunity to choose a comprehensive topical problem from several offered each year, including special studies in technical areas as well as building design and case studies in urban planning. Students in architecture are required to complete a minimum of 169 credits of work for the Bachelor of Architecture degree, including a number of credits in electives.
Additional Information:	The School of Architecture building provides studio space, exhibit space, a shop, a photo lab, classroom and lecture hall facilities, and a library. The Architectural School Library at present comprises some 9,000 volumes. It is expected that the library will number twelve to fifteen thousand volumes by 1973, which will make it one of the major architectural libraries in the

nation. The library subscribes to approximately 100 foreign and domestic periodicals, providing resources in urban sociology, building technology, and urban planning as well as in architecture.

The visual aids library presently contains about 45,000 35-mm. color slides in architecture, landscape architecture, and urban planning.

Title:	Master's Program in Architecture — Social Work
Location:	Washington University
Sponsors:	National Institute of Mental Health Faculty of the Schools of Architecture and Social Work
Funding:	$67,193 for the first year
Size:	5 students in the first class
Contact Personnel:	Dr. Donald C. Rowe School of Architecture Washington University St. Louis, Missouri 63130
Objectives:	To prepare students to make a unique contribution to the community as group planners and developers of social facilities. To prepare professional practitioners with alternative solutions to the special building problems of various kinds of communities and groups.
Description:	Graduates of this two and one-half year program will receive two master's degrees, one in architecture and one in social work. Priority for admission will be given to students from minority groups and to those who have expressed concern for people and the physical environment as it affects and is affected by behavioral, psychological, and social patterns of people. Those who complete the program will become advocates for a better physical environment which, in turn, will contribute to better mental health.
Additional Information:	This program is the outgrowth of an ongoing cooperative partnership between students in the Schools of Architecture and Social Work. Previously, they have collaborated in the study of rural Missouri housing needs and the design of alcoholic treatment and day care centers.

Title:	Undergraduate and Graduate Programs in Landscape Architecture
Location:	Louisiana State University
Sponsor:	State of Louisiana

Funding:	Information not available
Size:	136 undergraduate students 11 graduate students 13 faculty
Contact Personnel:	Dr. Robert S. Reich, Department Head Louisiana State University School of Environmental Design Department of Landscape Architecture Baton Rouge, Louisiana 70803
Objectives:	To provide a broad education at the undergraduate level so that graduates may be aware of all options for specialization and be equipped to explore many aspects of the profession in greater detail. To provide graduate students with an opportunity for in-depth study in any area or areas desired.
Description:	Students are encouraged to develop a broad base of interest. To achieve this end, they are allowed approximately fifty-three hours of electives, including six hours of Basic Sciences and Expository Writing, and fifteen hours related to one option within the broad scope of the profession of Landscape Architecture. Options include: Small Scale Design Large Scale Planning and Design (Urban, Rural, Regional) Recreation Planning and Design Plant Materials in Design Ecological Planning and Environmental Management Landscape Architectural Communications Landscape Architectural History and Restoration Computer Applications to Landscape Architecture Landscape Construction and Site Engineering Independent Research Education in Landscape Architecture Areas from which a minimum of fifteen hours of electives are to be chosen include: Fine Arts, Interior Design, Architecture, Psychology Sociology, Political Science, Economics, Psychology, Geography, Geology, Statistics HPRE, Forestry, Sociology, Geography, Psychology Botany, Horticulture, Agronomy, Plant Pathology, Entomology, Social Science Natural Sciences, Biological Sciences, Geography, Geology, Economics Speech, Journalism, English, Psychology History, Architectural History, Art History, Sociology, Anthropology

	Computer Science, Mathematics, Social Science, Statistics, Computer Graphics
	Agricultural Engineering, Civil Engineering, Construction Technology, Mathematics, Geology, Social Science
	Computer Science, Natural Science, Social Science, Statistics, Technical Writing
	Education, Educational Psychology

Title:	B.A. in Landscape Architecture
Location:	Ball State University
Sponsor:	State of Indiana
Funding:	Information not available
Size:	40 students 4 Faculty
Contact Personnel:	Charles M. Sappenfield, Dean College of Architecture and Planning Ball State University Muncie, Indiana 47306
Objectives:	To prepare graduates for professional practice as environmental designers concerned with arranging land and objects upon the land to benefit human welfare both functionally and aesthetically.
	To conserve, organize, and enrich man's environment.
Description:	The core of the Landscape Architecture curriculum is a five-year (fifteen quarters) sequence of courses in design. These courses are taught in studios, where students develop solutions to environmental problems in the form of drawings and models. In these classes, students learn methods and procedures and gain design experience. The studio format provides opportunities for students to apply technical knowledge and to integrate the many aspects of design. The problems studied are on a variety of scales, from furniture and other intimate man-environments to large-scale planning. Class problems are most often related to real projects, sometimes involving municipal, county, and state government agencies.
	To provide breadth of education and a sound foundation for responsible design, the landscape architecture curriculum incorporates Ball State University's program of general studies. Courses are included in history, mathematics, and natural sciences, plus elective choices in the humanities and the social and behavioral sciences. Specialized landscape architecture courses provide technical competence.
	Electives within the College of Architecture and Planning present opportunities for students to pursue areas of special interest. Electives have been offered in the history of architecture

and Landscape Architecture, structural systems, architectural photography, architectural research, planning, educational facilities programming, and systems theory. Elective credit has also been granted for independent study and for practice teaching.

Title:	Department of Landscape Architecture
Location:	Texas A & M University
Sponsors:	State of Texas
Funding:	$75,000 for 1972-73
Size:	85 students 12 faculty
Contact Personnel:	Dr. Robert E. White, Head Department of Landscape Architecture Texas A & M University College Station, Texas 77843
Objectives:	To offer opportunities for young men and women to become well-rounded individuals capable of meeting the challenges of the times and socially conscious of the values which contribute to the creation of democratic freedom and rewarding lives for all. To provide students with an atmosphere conducive to creativity. To stimulate awareness of the importance of a sound technical background. To offer a program which is broad in scope with no particular concentrations in any one aspect of the profession.
Description:	Landscape Architectural Design is offered as a three-year sequence beginning in the sophomore year. The second-year courses carry a four-hour credit value for each semester and are taught as one hour of lecture and nine hours of studio contact each week. The first semester is intended to expand the student's inquiry into the elements and the principles which lead to individual understanding of Landscape Architecture. The goal is to develop a perceptive awareness of the media and materials responsible for the man-made environment in which we find ourselves. The student is encouraged to experiment to find ways in which he individually, through the design processes, may arrive at solutions for the problems with which he is confronted. The second semester is devoted to two to five simple but real problems such as the effects of circulation systems on land-form patterns. Spaces are analyzed for particular uses with concern for the quality of the individual spaces created, particularly as each contributes to a total entity. The third-year design courses carry a five-hour credit value with one hour of lecture and thirteen hours of studio contact each

week. The problems in the course sequence increase in complexity as the year progresses. Typical problems might include a land subdivision sequence, a multiple-family housing complex, an urban park and/or recreation area development, a commercial area development, or an industrial park.

The fourth-year design courses carry a six-hour credit value with two hours of lecture and twelve hours of studio contact each week. In general, the problem sequence in the fourth year changes each semester. Usually the first semester work deals with large scale, comprehensive land planning with an intent to explore in depth landscape conservation practices as they apply to all land utilization.

The second semester sequence is designed to convert all previous work taken within the department — design, construction, and planning design — into practical problems in order to prepare the student for the general office routine with which he will soon become involved.

Title:	Master of Landscape Architecture (MLA) Master of Regional Planning (MRP)
Location:	University of Pennsylvania
Sponsors:	National Institute of Mental Health University of Pennsylvania
Funding:	$250,000 per year from the University of Pennsylvania Information not available on NIMH grant
Size:	64 Master of Landscape Architecture students 68 Master of Regional Planning students 18 faculty
Contact Personnel:	Ian L. McHarg, Program Director Department of Landscape Architecture Graduate School of Fine Arts University of Pennsylvania Philadelphia, Pennsylvania 19104
Objectives:	To train students to be conversant with the natural sciences so that they can speak for nature in man's world. To increase students' understanding of nature as a process and as a value system providing opportunities and constraints to human use. To make students skilled in using form so that they may adapt nature for human use, health, and well being.
Description:	The professional program in Landscape Architecture has three major subject areas: the first of these consists of the biological sciences, with emphasis on botany, ecology, plants and design; the second includes the physical sciences, notably geology and engineering; and the third involves history and theory. As the

student proceeds toward competency in these subject areas, synthesis is obtained in a sequence of case studies which begins with regional problems and emphasizes the importance of natural processes to planning. Another consideration is social process in planning. Subsequent case studies are directed toward the resolutions of social problems in the context of natural processes through planning and design. The final exercises are conducted as projects emphasizing design, and are realized in working drawings and specifications.

Opportunities are afforded to students to select areas of concentration within the field of Landscape Architecture. These opportunities are presented both in lecture courses and in case studies. Joint problems are offered with Architecture, City Planning, Regional Planning, and Urban Design.

The basic requirements of the Master of Regional Planning program are that the student shall understand the principles of geology, ecology, and the planning method, and demonstrate this understanding with case studies. In addition, the student is expected and encouraged to pursue special interests such as hydrology, limnology, computer techniques, or regional science. The exact program of study is arranged by the individual with the help of a faculty advisor.

Students entering the Regional Planning program through the Department of City and Regional Planning are required to develop a thorough grounding in the social sciences with emphasis in a selected area (e.g., economics, political science, regional science). Students may enter the program with undergraduate professional preparation other than in the social sciences (e.g., architecture, engineering) but such students should expect to take longer than two years to develop the requisite knowledge in the social sciences.

Students entering Regional Planning from the social sciences normally enroll in the joint program in Regional Planning and Regional Science.

The Center for Ecological Research in Planning and Design is the research arm of the Department of Landscape Architecture and Regional Planning. It is the instrument through which faculty and graduate students may synthesize the perceptions of their individual sciences in the description, analysis, and prescriptions of whole natural systems, and through which data, interpretation, and method for ecological planning can be elaborated and improved.

Title	Department of Landscape Architecture
Location	University of Oregon
Sponsor	State of Oregon
Funding	$2,000/total

Size:	200 students 8 Faculty
Contact Personnel:	Dr. Jerome Diethelm, Head Department of Landscape Architecture School of Architecture and Allied Arts University of Oregon Eugene, Oregon 97403
Objectives:	To provide an educational environment which will support and encourage students preparing themselves to become professional landscape architects. To provide a program which balances professional and liberal arts education in recognition of the need for broadly educated professionals in landscape architecture. To introduce the ideas and activities of landscape architecture to the larger university community in order to build better citizen awareness of the profession's contributions to environmental quality. To provide a public service wherever public need and the educational mission of the school are compatible. To provide a broad introduction to the field of landscape architecture within the undergraduate program with the expectation that specialization will occur at the graduate level. To provide for the above within a curricular format that is flexible enough to accommodate and encourage a broad range of individual interests and experience. To encourage the student to assume responsibility for his educational growth.
Description:	The curriculum in landscape architecture, leading to the degree of Bachelor of Landscape Architecture, is a five-year program which combines a general preparation in the arts and sciences with a more specialized focus on man/environment relationships. The program hopes to produce an environmentally and visually literate citizen and a graduate capable of playing a central, professional role in the evolving landscape. Opportunities are provided for collaboration on planning and design problems with students in architecture, urban planning, geography, biology, sociology, recreation and park management, and the fine arts, in recognition of the integrative and comprehensive nature of environmental planning and design. The curriculum represents a recommended path toward the degree. It is expected to vary through advisement and to respond to individual interests, goals, and previous experience. The options and departmental electives offered reflect both the need to provide a wide range of environmental subject material as well as the need to introduce the rapidly expanding spectrum of career areas within the profession. These include:

Ecological Resource Analysis
Land Conservation and Development
Leisure and Recreational Planning and Design
Private Office Professional Practice
Public Agency Professional Practice
Environmental Impact Assessment
Environmental Research

The undergraduate program attempts to provide a balanced exposure to the many and varied facets of landscape architecture.

The graduate program in landscape architecture leading to the degree of Master of Landscape Architecture is intended for those students who are especially prepared to do original work in the field. This may include research in any of the numerous subareas of the profession, community service projects which contribute to the development of harmonious man/land relationships in the region, and pedagogical preparation for teaching at the university level. Programs combining work in two or more divisions of the school are encouraged.

Title:	Master of Landscape Architecture
Location:	North Carolina State University
Sponsor:	North Carolina State University School of Design
Funding:	Information not available
Size:	34 graduate students 8 faculty
Contact Personnel:	Barrett L. Kays Department of Landscape Architecture North Carolina State University P.O. Box 5398 Raleigh, North Carolina 27607
Objective:	To prepare adequately trained and competent individuals to determine and execute solutions to complex problems of environmental design and management.
Description:	In the Master of Landscape Architecture program, problem-specific case studies serve as foci for student activity. The service/learning approach provides the student an opportunity to interrelate his research findings and to evaluate his prescriptions for change in a realistic context. Through the Regional Design Workshops, information pertinent to current and future professional trends is communicated, as is information concerning the design of policy, management structures, and strategies for innovative environmental planning.

The program intends to provide the graduate student with a laboratory that simulates as closely as possible the situations, opportunities, procedures, and difficulties involved in professional activity.

Projects have been developed that offer students a long-term involvement in a setting that can be progressively developed in order to provide the student with a growing body of information and the client with useful and applicable professional advice.

Title:	College of Architecture and Environmental Design
Location:	Texas A & M University
Sponsors:	State of Texas Federal agencies Private institutions
Funding:	$1,008,545 for 1972-73
Size:	781 undergraduate students 123 graduate students 45 faculty
Contact Personnel:	W. Cecil Steward, Architect and Associate Dean College of Architecture and Environmental Design Texas A & M University College Station, Texas 77843
Objectives:	To offer unique educational opportunities for those who aspire to become leaders in shaping the form and function of man's environment. To direct students toward a lifetime of positive contribution to society; to condition them to be flexible, adaptive, inventive, and open to change.
Description:	The curriculum is multidisciplinary in nature. Students are exposed to the trends and developments in the diverse disciplines of art, transportation, communications, production, construction, history, politics, sociology, and economics, all of which are important to producing the most effective architects, designers, and planners. The College's organizational structure includes five teaching departments (Landscape Architecture, Architecture, Environmental Design, Building Construction, and Urban and Regional Planning) and a research center. The departments are unified by their common objective of full development of environmental form and function. The College draws heavily on the total resources of the university and the state for educational experience. Nine Texas metropolitan centers, located within 180 miles of Texas A & M University, provide multiple opportunities for participation in urban affairs.

The greatest of the resources available to the College is the faculty of Texas A & M University. Practicing architects, landscape architects, urban planners, professional engineers, published humanists, social scientists, acclaimed artists, and designers work together in a spirit of cooperation and common purpose.

Title:	Preceptorship Program
Location:	University of Oklahoma
Sponsor:	Information not available
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Mr. Murlin R. Hodgell, Dean University of Oklahoma College of Environmental Design 180 West Brooks Street, Room 252 Norman, Oklahoma 73069
Objective:	To offer qualified students an opportunity, under controlled circumstances, to experience the conditions of a professional office of architecture at a midpoint in their educational programs.
Description:	Participants normally will spend six months full time in an office. The student will enroll in a problems course as a substitute for a design course normally taken in his program sequence. Maximum academic credit, upon satisfactory completion of the program, will be no greater than that usually specified for that design course. The participating preceptor, as an adjunct professor, will be the primary instructor. Participating students are expected to be contributing members of the office in which they are doing their preceptorship and generally will receive compensation from the office for their work. Students may petition for participation in the preceptor program if they have completed at least three years of full-time study toward a professional degree in Architecture, have earned credit in Architecture 4547, and have maintained an overall GPA of at least 2.4.

Title:	Environmental Systems Studies
Location:	Virginia Polytechnic Institute and State University
Sponsors:	State funds Private research Instructional grants
Funding:	$100,000 per year

Size:	30 students 15 faculty (F.T.E.) 5 part-time faculty
Contact Personnel:	Charles Burchard, Dean College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objectives:	To overcome the dichotomy that divides design education from the subject matter curriculum. To integrate design education into a new discipline in which human and physical environmental factors and design methodologies are identified as complementary studies. To encourage the development of design processes and attitudes needed by designers in today's society.
Description:*	The curriculum of the First Division consists of a general education in the sciences and the humanities and a preprofessional or foundation core of design studies. Second Division areas of study consist of systematic approaches to building design, urban complexes, building utilities, site planning and supportive subjects. It is intended that these elective selections be organized to support emerging interests in environmental design, environmental systems, or comprehensive planning. Students who have completed this sequence of study may elect the option of a terminal fifth year as candidates for the Bachelor of Architecture degree or, if qualified for graduate study, may enter a two-year graduate program offered in the Third Division by the academic and research faculty of the Division of Environmental and Urban Systems. Advanced studies and research in comprehensive planning, urban design, and environmental systems are offered to graduate level students. Students and faculty at this level conduct integrated interdisciplinary investigations of human environments and systems.

*(This section by G. Echols and Day Ding, "Education for Environmental Systems Design: Philosophy of the Graduate Program at V.P.I.")

BEST COPY AVAILABLE

Title:	Environmental Systems Studies
Location:	Virginia Polytechnic Institute and State University
Sponsors:	State of Virginia College of Architecture Research and instructional support Private sector support
Funding:	$100,000 per year
Size:	30 students 5 faculty (FTE)
Contact Personnel:	Charles Burchard, Dean College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objectives:	To provide a focus for the wealth of urban and environmental research activities in progress throughout the university. To conduct research to expand the body of knowledge concerning urban and environmental systems. To enhance the effectiveness of professionals in transforming large segments of urban and rural environments.
Description:	The Environmental Systems Studies program transcends the boundaries of the physical and behavioral sciences, combining the many complex subsystems of building and environmental technologies. This curriculum affords graduate students the opportunity to concentrate in a new and significant area, and to participate in research investigations undertaken in the Environmental Systems Laboratories. It includes in-depth investigations of environmental determinants, systems technologies, and methodologies and recognizes the need for a broad "systems orientation" in the development and manipulation of environmental subsystems. Four major components contribute to the academic experience of graduate students. These are: Environmental Systems Analysis Environmental Systems Design Synthesis Specialized Electives Research and Thesis The degree of Master of Architecture in Environmental Systems Studies is awarded upon satisfactory completion of a basic two-year graduate program including a thesis. Candidates are required to have a first degree in architecture, engineering, or an approved discipline. Deficiency removal and advanced placement will be decided upon individual merits.
Additional Information:	The program in Environmental Systems has been functioning since the 1968-69 academic year; its graduates are finding ready employment in education and building research as well as in professional practice.

BEST COPY AVAILABLE

Schools of architecture and urban studies usually are modestly involved in research. This school is characterized by deeper involvement which brings the faculty and students into continual and direct contact with the problems of an urbanizing America. The community therefore becomes a significant part of the learning resources available to students, and thereby encourages attitudes and habits of work necessary to the preparation of more socially responsible professionals.

Title:	Black Environmental Studies Team Curriculum (B.E.S.T.)
Location:	Yale University
Sponsor:	Information not available
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Mrs. Thelma Rucker School of Architecture P.O. Box 1605 Yale University New Haven, Connecticut 06520
Objectives:	To develop new and effective roles for design professionals committed to serving communities with predominantly low-income populations. To give students the opportunity to develop the insights and technical and manipulative skills necessary for their future responsibilities by enabling them to work in the design of actual community projects.
Description:	Black Environmental Studies Team students work directly with local residents, public officials, and others integral to the community development process required to carrying out projects. B.E.S.T. studios examine design problems in the areas of housing, public facilities, and planning. Introductory and advanced seminars featuring guest lecturers from many fields cover a range of knowledge intended to support both the design studios and the field experience.

Title:	Institute of Community and Area Development (ICAD)
Location:	University of Georgia
Sponsors:	Bureau of Outdoor Recreation State of Georgia State of South Carolina State of South Carolina
Funding:	Information not available

Size: Number of students not available
25 faculty

Contact Personnel: Allen D. Stovall, Assistant Professor
School of Environmental Design
University of Georgia
Athens, Georgia 30601

Objectives: To provide technical counsel and assistance to communities and to area planning and development commissions throughout the state.

To stimulate the school's awareness of and involvement in a number of community and regional problems.

Description: A number of students become directly involved in Institute projects through part-time work or assistantships provided by various grants or contracts.

Currently, an important contribution of the Institute is a program for providing land analysis and mapping services for *The Southern Highland Study* which investigates the Highland Area's suitability and potential for regional recreation.

Titles: I. Community Development
II. Environmental Conservation
III. Resource Economics

Location: University of New Hampshire

Sponsors: University of New Hampshire
College of Life Sciences and Agriculture

Funding: Variable

Size: 8 students in Community Development
5 faculty

116 students in Environmental Conservation
6 faculty

24 students in Resource Economics
4 faculty

Contact Personnel: David P. Olson, Director
Institute of National and Environmental Resources
College of Life Sciences and Agriculture
University of New Hampshire
Durham, New Hampshire 03824

I. Community Development

Objective: To combine biological and social studies, recognizing and emphasizing the need for integration of these two aspects in the development of the student.

Description: The Community Development program deals with broad aspects of community problem resolution including economic,

social, political, and technical matters. Communities are viewed as systems subject to meaningful analysis by those with knowledge and skills of considerable breadth. The curriculum, accordingly, takes an interdisciplinary approach and includes field experience as a vital component, along with classroom and independent study.

Students are encouraged to conduct independent projects in Resource Economics 795 and 796.

While this program is suitable for preparing any citizen for more effective leadership in his community, employment opportunities are available in the United States, Canada, and in emerging nations. Many federal and state agencies are now undertaking community assistance programs and need personnel who are trained to apply the arts and sciences to the problems of communities. Similarly, many private and local groups are concerned with community planning and development.

Required Core Courses in Community Development:

Soc.	500	Social Psychology
Res. Econ.	507	Introduction to Community Dev.
Res. Econ.	508	Applied Community Development
Res. Econ.	795, 796	Independent investigation in field analysis of a specific problem in a community in the region

At least four of the following:

Admin.	611	Organization Behavior
Bio.	641	General Ecology
For. Res.	702	Natural Resources Policy
Res. Econ.	705	Structure, Economic Problems, and Planning of Communities in Non-urban Environment
Res. Econ.	701	Applied Statistics
S & W S	709	Soil Interpretation and Community Planning
Soc?	560	Rural-Urban Sociology

II. Environmental Conservation

Objective: To give a broad background for understanding environmental and resource problems and their solutions.

Description: Students must complete 10 courses which, as a group, make up the core of the environmental conservation curriculum. The courses are:

Botany 411 (General Botany)

Zoology 412 (Principles of Zoology)

Ecology electives (two of the following):

Biology 641 (General Ecology), Botany 741 (Ecosystem Analysis), Botany 742 (Physiological Ecology), Forest Resources 527 (Silvics), Forest Resources 634 (Wildlife Ecology)

Resource Economics 401 (Environmental and Resource Economics) or Resource Economics 402 (Economics of Resource Use)

An advanced course in Economics and Resource Economics
Forest Resources 635 (Contemporary Conservation Issues)
Resource Economics 706 (Economics of Resource Development) or Forest Resources 702 (Natural Resources Policy)
Soil and Water Science 504 (Fresh Water Resources)
Senior Practicum: at least four credits, selected by the student in consultation with the instructor. Forest Resources 695, 696 (Investigations in Forestry), Resource Economics 795, 796 (Investigations in Resource Economics), Soil and Water 795, 796 (Independent Work in Soil and Water). This practicum will be an independent project involving field work on an actual conservation activity during the senior year. A written report is required. The course may be developed with any faculty member in the Institute of Natural and Environmental Resources.

III. Resource Economics

Objective: The program in Resource Economics offers training in public resource policy, resource management, conservation economics, community resource development, and regional economics. Training is also available in agricultural economics, including farm management, food marketing and consumption, agricultural price policy, and world food supplies.

Description: The student is trained primarily in the science of economics and its use in problem solving by individuals, households, business firms, communities, and administrators of governmental agencies. In addition, the student satisfies university requirements leading to a broad university education. Majors interested in community resource development should take courses in the departments of Forest Resources, Soil and Water Science, Sociology, and Political Science. Those majors who are interested in the economic or business aspects of agriculture will be expected to take courses in the departments of Animal Sciences and Plant Science. All majors in resource economics will be expected to take some selected courses in the Whittemore School of Business and Economics.

Title: Graduate Study in Human Ecology Fields

Location: Cornell University

Sponsors: Information not available

Funding: Information not available

Size: Information not available

Contact Personnel: David C. Knapp, Dean
New York State College of Human Ecology
Cornell University
Ithaca, New York 14850

Objectives:

To prepare professional workers to satisfy the demand for people holding advanced degrees in fields related to human ecology — the relationship of man to his near environment.

To qualify graduates for consumer interest positions in business and industry and for education careers at both secondary and higher levels.

Description:

Graduate Study in Human Ecology is a flexible program at Cornell University which emphasizes independent study and research. Each candidate for an advanced degree has a special committee of faculty members who help him develop a program based on his educational needs, background, and professional goals. The committee system encourages a close working relationship between the student and his faculty advisers.

The College serves as the academic unit in which graduate courses in human ecology fields are offered and research facilities are made available. Students may study for the M.A. or the M.S. degree in Consumer Economics and Housing, Design and Environmental Analysis, Education, Human Development and Family Studies, and Human Nutrition and Food. The Ph.D. degree is conferred in each of these fields except Design and Environmental Analysis. In addition, the M.A.T. (Master of Arts in Teaching) and the Ed.D. are offered in Education.

The Consumer Economics and Housing field offers education in the scientific study of consumers' economic behavior within its sociopolitical context, leading to the M.S. and Ph.D. degrees. The central concern of the field is the welfare of the consumer in society. Areas of interest include: decision making related to earning, spending, and saving; the economic and social environment affecting these decisions; and the impact of decisions and environment on the welfare of families and individuals.

Study in the field of Design and Environmental Analysis is directed toward improving man's functional relationship with his immediate physical environment. Particular emphasis is placed on the relationship between the family and the near environment through application of knowledge from the arts, physical sciences, and social sciences. A common interest in improving the quality of the near environment has led to the cooperation of the various areas of the Design field with the Environmental Analysis field.

The Human Development and Family Studies field offers graduate education in the scientific study of children and families.

All students are expected to master a broad base of knowledge of human development and the family as a social system. Areas of specialization are provided via a system of major and minor subjects. The program leads to the M.A. and Ph.D. degrees.

Graduate study in the Human Nutrition and Food field is designed to provide in-depth study of fundamental knowledge and research methods in nutrition, food science, and adminis-

trative dietetics, with emphasis on the application of the physical, biological, behavioral, and social sciences.

Community Service Education faculty and students analyze education as an instrument for effecting change, especially for improving the quality of everyday life. The objective of the graduate program is to prepare innovative scientists capable (1) of designing appropriate programs of education and social action, and (2) of analyzing systematically the impact of such programs on the individual and on his reciprocal relationships with others and with the near environment.

Title:	Environmental Design for the Elderly
Location:	University of Southern California
Sponsor:	Administration on Aging (AOA)
Funding:	Information not available
Size:	14 students 4 faculty 3-4 visiting faculty
Contact Personnel:	Eric Pawley, Training Program Director Ethel Percy Andrus Gerontology Center University of Southern California Los Angeles, California 90007
Objective:	To improve the quality of life for the elderly through design of their physical environment based on awareness of their needs.
Description:	In the past, architects and planners have depended upon tradition and personal experience in their attempts to ameliorate the environmental problems of the elderly. Now, however, they are obtaining help from social psychologists, sociologists, and anthropologists, and cooperative efforts are being made to find better solutions. The following list of project areas illustrates the scope of these concerns: Visual Environment Acoustical Environment Microclimate Studies Bio-Design Environmental Social Psychology Building Types and Sites Urban Planning/Ecology Theory/Methodology Trainees come to the program with a wide range of backgrounds and experience, but most are highly motivated to work in the area of social gerontology. They see this interdisciplinary training as the means of obtaining a worthwhile career and making a contribution to society. Trainees provide manpower for testing, for data-collection by verbal surveys, for photo-surveys of urban areas, and for report

writing and graphics. An important part of the Andrus Gerontology Center Training Program is the second-year trainee's participation in annual national and regional professional meetings.

Title:	Urban and Regional Planning
Location:	University of Colorado
Sponsor:	State of Colorado
Funding:	$50,000 per year
Size:	125 Master's degree students
Contact Personnel:	Dwayne C. Nuzum, Dean Environmental Design College University of Colorado Boulder, Colorado 80302
Objectives:	To cultivate professional competence as it relates to the urban change and development process especially in such challenging areas as new towns and cities; suburban development; renewal; rehabilitation and restoration; and problems and processes of organization, planning, design, housing, education, health, employment security, and economic development. To provide academic competence along with experience and technical skills in the various program concentration areas. To provide the opportunity for students from disciplines fundamental to urban community development to be part of a total participant-directed program, and to develop and apply their theory and problem-solving abilities in an urban environment.
Description:	The student has an opportunity to specialize in the area of his chosen interest. In addition, the student is provided with a broad range of skills and knowledge concerning: The needs and processes of the urban community. The mobilization of public and private resources. The dynamics of individual and group behavior. The theory and methodology of planned urban change and change systems, and the theory, methodology, and technical competence in urban and regional planning and community development.

Title:	Program in Urban Studies
Location:	Virginia Polytechnic Institute and State University (Reston, Richmond, Norfolk, and Fort Eustis)
Sponsor:	Virginia Polytechnic Institute and State University
Funding:	Information not available

Size:	240 students
Contact Personnel:	Dr. Adam Herbert, Curriculum Chairman Program in Urban Studies College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objective:	To provide students with a systematic consideration of the interdependent characteristics and issues of urban communities.
Description:	The off-campus graduate program in Urban Studies educates students who will develop new knowledge about urban areas, use existing knowledge to solve urban problems, and impart "urban knowledge" to future students at all levels. The core curriculum includes courses on: The Relationship and Technological Impact of Man on His Environment. The Historic Evolution of Urban Development. The Nature of Urbanization. The Public Decision-Making Process and Techniques for the Implementation of Public Policy. Analytical Techniques Applicable to Urban and Regional Development. This graduate program trains professionals highly capable of filling certain necessary and desired roles in society.

Title:	Public Affairs Leadership Program
Location:	The Pennsylvania State University
Sponsor:	W. K. Kellogg Foundation
Funding:	$512,778 per year for five years, 1969-74
Size:	Part I: 105 first-year students 35 second- and third-year students Part II: 35 undergraduate students
Contact Personnel:	Dr. Robert E. Howell, Director Public Affairs Leadership Program 204 Weaver Building The Pennsylvania State University University Park, Pennsylvania 16802
Objectives:	The objectives of the first and major part of the educational program are: To develop increased knowledge and understanding of economic and social changes affecting agriculture and rural areas. To develop a greater sensitivity to the needs and aspirations of other groups in society.

To increase understanding of social organization in communities, of the processes by which groups make decisions, and of strategies by which these decisions are implemented.

To increase understanding of the methods and qualities of leadership in group action.

To develop greater understanding of critical national and international issues.

To evaluate alternative solutions to selected problems facing agriculture and rural society.

The objectives of the second phase of the program are:

To develop in students a concern for social and economic problems and a sense of obligation to achieve their solution.

To develop within students a "feel" for public problems, as well as an intellectual understanding of them.

Description: The Public Affairs Leadership Program is composed of two parts.

Part I is an adult education program for men and women aged 25 to 40 which concentrates on the development of farm and rural nonfarm leaders in Pennsylvania. The Foundation grant calls for the establishment of a five-year adult education project. In each of the first three years, an initial class limited to 105 participants, equally drawn from three areas of the state, was trained. Second- and third-year programs followed for 35 of the most promising of the initial 105 participants. Thus, three one-year programs, each to be followed by a two-year program, will be carried out over the five years. In each of the three years, students participate in 20 days of intensive classroom sessions and field trips and a directed home study program, which makes available pertinent books and other reading materials.

Part II is for undergraduate students in the College of Agriculture at The Pennsylvania State University. The objectives are met by establishing a two-credit course called "Current Social Issues" in the Department of Agricultural Economics and Rural Sociology.

Additional Information: The program will operate until September 1974.

Title: Master of Public Affairs and Urban Planning

Location: Princeton University

Sponsors: Information not available

Funding: Information not available

Size:	10 graduate students 2 full-time faculty 8 part-time faculty 14-16 additonal faculty from the Woodrow Wilson School of International and Public Affairs
Contact Personnel:	Robert L. Geddes, Dean School of Architecture and Urban Planning Princeton University Princeton, New Jersey 08540
Objective:	To provide advanced knowledge and professional education in the fields of public affairs and urban planning, involving the formulation of plans and policies with particular, but not exclusive, emphasis on problems of physical development.
Description:	The Master of Public Affairs and Urban Planning program is a joint program of the Woodrow Wilson School of Public and International Affairs and the School of Architecture and Urban Planning. A rigorous education in applied social science is provided in order to prepare students for positions of responsibility in the formulation and execution of public policies. The joint program's basic elements are the core courses of the Master in Public Affairs and the Master of Architecture and Urban Planning programs, including courses in urban policy analysis, urban policy workshops, urban planning workshops, and work/study opportunities. Two years of study at Princeton are required.
Additional Information:	The School is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning. It is on the list of Accredited Schools of Architecture published by the National Architectural Accrediting Board, and the School's graduates are entitled to all of the privileges accorded by the various state boards of architectural registration to those holding diplomas from recognized schools of architecture.

Title:	The Center of Housing and Social Environment
Location:	University of Virginia
Sponsors:	Information not available
Funding:	Information not available
Size:	Information not available
Contact Personnel:	Professor H. Cassius Higgins School of Architecture University of Virginia Campbell Hall Charlottesville, Virginia 22903

Objectives:

To bridge the gap between the training of professionals, the practice of professionals, and the evolving need for their interconnection with housing research so that the design and production of housing can more accurately respond to changing societal demands.

To establish network links and an exchange program with other centers to create a consortia resource for comparative data.

To integrate housing research with the teaching program of the School of Architecture.

Description:

Current interests and activities of the Center fall into four categories: specialist coursework in housing for graduate architects and planners; an ongoing case study program of built and occupied housing projects; an interdisciplinary housing conference program for professionals, educators, community leaders and students; and individual research into various aspects of the housing problem. The Center has thus turned its attention to qualitative rather than quantitative aspects of housing production. The present program reflects both this concern and an educational emphasis that aims to produce socially accountable professionals in the action area of housing design.

The professional curriculum consists of a housing course sequence that extends through one academic year, available to graduate students of architecture, with participation from other graduate students in related disciplines.

The case study program identifies user needs through feedback from occupants of live housing projects that are either prototypical or generic in type over a three- to five-year period. The projects currently under case study are the Turnkey III housing element in Capitol View Plaza, Washington, D.C., and the British high-density low-rise housing project in London, England.

In addition to a coursework option, graduate students may undertake individual research projects where these are deemed possible within the limited resources of the Center. The intention of individual researches is to provide source material for forward projects. One student research project is being used as part of the research data for a rural housing project.

The present conference series, which commenced in 1971, is seen as a consecutive three-year program. Each year, it focuses on the problems and characteristics of one housing situation: suburban, urban, rural. Two conferences are held each year providing a forum for discussion between varied disciplinary specialists, practicing professionals and administrators, and representative community groups and students.

Title: Rice Center for Community Design and Research

Location: Rice University

Sponsors: Government agencies

Foundations
Private developers
Community groups

Funding: $300,000 initial operating capital
(The Center eventually is expected to be fully self-supporting.)

Size: Rice student interns
Full-time Center staff
Faculty, School of Architecture
Associated staff

Contact Personnel: Donald L. Williams, Executive Director
Rice Center for Community Design and Research
Rice University School of Architecture
Houston, Texas 77001

Objectives: To provide graduate interns with innovative learning and professional service experiences which focus upon problems of the real world, thus adding reality and depth to their education.

To use the results of independent, exploratory research and professional service into physical environment problems of public concern to benefit design and planning practice.

To efficiently manage and operate professional services and research contracted for individual clients according to the client's specifications, schedule, and budget.

Description: Basic changes now being made in architectural teaching at Rice include:

Improvement of environmental awareness programs available to the entire university.

Creation of specialized graduate level architectural programs to deal with varied environmental aspects, scales, and development processes.

Expansion of an interdisciplinary faculty of architecture.

Creation of joint programs with other departments at Rice and nearby institutions.

Development of clinical education which allows academic credit for contract research and "real world" professional practice for major portions of the university experience.

One of the central opportunities in line with changes in architectural education at Rice is the opportunity for graduate students to work at the Rice Center for Community Design and Research, professional service and research organization. The center's professional capabilities are being directed into research considered critical for improving the quality of life and physical environment in communities of the Southwest. Work and projects of the center will involve applied environmental research, architectural and allied services, and broader community planning and systems design. Working in the center provides a pragmatic counterpart to the academic experience through applied research and professional practice within the center.

Rice University School of Architecture needs a laboratory to provide clinical training in innovative applied research for its graduate students. The Texas Gulf Coast and the greater southwest region need a usable depository of information about the physical environment and the region's development potential. The business community and the general public need an objective, reliable, and broad-based research institution to conduct professional studies in the community development field. The center promises to satisfy these needs through a competent, well-managed organization which brings professional education and research resources into direct and practical contact with community problems and needs.

Title:	Center for the Study of New Communities, Reston, Virginia
Location:	Virginia Polytechnic Institute and State University
Sponsors:	Virginia Title VIII Department of Housing and Urban Development Gulf-Reston Foundation
Funding:	$75,000 as of September 1, 1972
Size:	Variable
Contact Personnel:	Dr. Robert Dyck, Acting Director Center for the Study of New Communities College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objective:	To contribute to the understanding of the new communities and urban development processes through research, conferences, and services.
Description:	The Center for the Study of New Communities at Reston, Virginia, is administered for the University by the College of Architecture. It provides an opportunity for faculty and students from the university and from Virginia's other public institutions of higher learning to focus attention on the urgent problems of urban development.

Title:	The Center for Urban and Regional Studies
Location:	Virginia Polytechnic Institute and State University
Sponsors:	Department of Housing and Urban Development Department of Transportation Department of Health, Education and Welfare
Funding:	$675,000 as of September 1972
Size:	Variable

Contact Personnel:	Dr. Robert Dyck, Director The Center for Urban and Regional Studies College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objectives:	To provide a research and service facility for interdisciplinary investigations of the human environment. To offer programs of continuing education in the fields of planning, urban design, and community development.
Description:	As the research, extension, and continuing education arm of the College, the center provides an opportunity for participation in research projects in the areas of comprehensive planning, urban design, resources planning, and public management. The faculty of the Division of Environmental and Urban Systems representing a variety of disciplines provides the principal investigative resource for the center. Support and participation is frequently elicited from various other departments and programs of the university. The center is also responsible for programs of continuing education in the fields of planning, urban design, and community development.

Title:	The Portsmouth/Southside Community Workshop
Location:	Virginia Polytechnic Institute and State University
Sponsor:	Virginia Polytechnic Institute and State University
Funding:	$50,000 per year
Size:	15 students per year in residence 1 faculty member
Contact Personnel:	Mr. Leonard Markir, Professor and Faculty Advisor The Portsmouth/Southside Community Workshop College of Architecture Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061
Objective:	To provide students with an opportunity for relevant learning experiences and professional involvement.
Description:	The Portsmouth Workshop is located in a formerly abandoned hotel on the south side of the inner city of Portsmouth. Students electing to participate in the program work in advocate design roles as socially concerned architects and receive academic credit toward the professional degree requirements. The hotel provides living accommodations for fifteen students, drafting and work rooms, and community meeting rooms. There is a 1.5 FTE faculty appointment to the workshop. Some workshop projects are undertaken in the campus design laboratories which serve as desirable linkages to off-campus resources.

Additional Information:	During the 1972-73 academic year, the workshop launched a multidisciplinary attack on the problems of the poverty community in Portsmouth. Student volunteers in Education, Urban Affairs, Psychology, and Planning have participated, as well as architectural students. At the present time the workshop is involved in a variety of projects which reflect its ability to provide those types of expertise.
Title:	Grass Roots Organization of Workers (GROW)
Location:	The University of Michigan
Sponsor:	Department of Architecture
Funding:	Information not available
Size:	4-8 students 1-2 faculty
Contact Personnel:	Professor Harold Himes Department of Architecture The University of Michigan Ann Arbor, Michigan 48104
Objectives:	To prepare for jobs in planning and related activities persons who have special insights into the problems of minority groups and disadvantaged citizens. To assist public agencies in carrying out their roles, by providing an additional source of trained manpower.
Description:	The workshop in GROW operates twelve months a year and provides the practicum portion of the community service "option," which students beginning the last two years of an undergraduate architecture program may elect as their program of study.
Title:	Urban Intern Project
Location:	University of Colorado
Sponsor:	Center for Urban Affairs at the University of Colorado
Funding:	$550 per student per semester
Size:	Information not available
Contact Personnel:	Nickola Stoner Urban Intern Program University of Colorado 1100 Fourteenth Street Denver, Colorado 80202
Objectives:	To provide the student with a broad view of the city environment.

To introduce students to urban problems, agencies, and organizations.

To offer training in the formulation of learning objectives and in the development of technical skills for problem identification, analysis, and problem-solving methods.

Description:

The student is expected to work twenty-five to thirty hours per week in field placement activities. Part of this time is to be spent in research, attending relevant community meetings and maintaining a log of experiences. In addition, the student is responsible for relevant readings and oral and written work on selected topics for seminars.

Activities and experiences for the first few weeks include visitations to a multitude of agencies, familiarization with methods of gathering information, and an introduction to participatory and experiential education as well as to urban ecology.

Toward the end of this orientation, the student assumes the primary responsibility for locating a suitable work placement and establishing contact between the field supervisor and program staff. Program staff assist in establishing mutually satisfactory field relationships. Evaluations are conducted as a joint enterprise by students, staff, faculty, and field supervisors.

The nature of the learning experience of the Intern Program is such that academic input is necessary. Because the urban environment itself is of an interdisciplinary nature, this input is maximally beneficial when the content can be presented in an interdisciplinary manner. To insure this, the program offers an interdisciplinary approach to content relevant to urban studies. This interdisciplinary content focuses on:

Functional problem areas of the city (housing, transportation, social services delivery systems, minorities, politics and economics, etc.) and/or

Problem-solving methodologies (theories of planned change, research methods, community analysis, etc.).

Students have a major voice in establishing the general climate in which the program will operate. The establishment of a student learning community for the purposes of information exchange, problem solving, reflection, and feedback will be strongly encouraged.

Title: The Penn State Workshop, Urban Studies Program

Location: The Pennsylvania State University

Sponsors:
Wister Area Community Council
Redevelopment Authority of Philadelphia
City Planning Commission of Philadelphia
Philadelphia Housing Development Corporation
Housing and Urban Development
Ueland and Junker, Architects, Philadelphia, Pennsylvania

Funding: Information not available

Size: Variable

Contact Personnel: Dr. Ramiero Corbelletti
The Pennsylvania State University
308 Sackett Building
University Park, Pennsylvania 16802

Objective: To provide the student with an opportunity to utilize the city as a working laboratory for group-related projects initiated by community and departmental invitation, individual thesis-oriented studies, or independent work/study efforts at the professional level.

Description: The Penn State Workshop, Urban Studies Program, is a curriculum option offered to fourth- and fifth-year and graduate students of the Department of Architecture.

The program is directed at real projects and issues. Because of the variations in skill levels and because of other constraints (two terms per student), the workshop includes comprehensive and limited studies. This variation in type of studies allows the student to exercise responsible decision-making capabilities and fulfill attainable objectives.

The goal of the workshop is to sponsor studies and projects which are of maximum educational value and benefit to the student, the community, and the profession at large.

Title: Institute for Community Arts Studies

Location: University of Oregon

Sponsors: Lila Acheson Wallace Grant
Office of Education
Office of Health, Education and Welfare (H.E.W.)
Oregon Arts Commission
JDR 3rd Fund
University of Oregon

Funding: Information not available

Size: Variable number of undergraduate students
2 graduate students on staff
2 faculty

Contact Personnel: June King McFee, Director
Institute for Community Arts Studies
School of Architecture and Allied Arts
University of Oregon
Eugene, Oregon 97403

Objectives: To stimulate awareness and encourage cooperative action in the preservation and development of cultural, structural, and geographic potentials of Oregon communities.

To focus attention on the visual qualities of social and physical environmental problems.

To coordinate these factors to best serve the community.

Description: The scope of the Institute for Community Arts Studies includes community environmental education and research programs. The institute supports community leaders and involved citizens in analyzing environmental conditions; sponsors conferences to help community art centers throughout Oregon (in cooperation with the Museum of Art and the State Arts Commission); and advises and assists public schools and adult education groups offering community art courses.

Students and faculty have received special grants to study selected Oregon communities. Research concerned with decision making in the arts, behavioral and aesthetic foundations of theoretical design, educational processes in the arts, and art as a means of social communication and cultural transmission is being conducted. Finally, institute staff members are currently working on experimental curricula to encourage elementary schools to increase the impact of art on the curriculum and relate it to awareness of the environment.

Title: HUD Minority Internship Program

Location: Massachusetts Institute of Technology

Sponsor: U.S. Department of Housing and Urban Development

Funding: Information not available

Size: 20 first- and second-year interns

Contact Personnel: Dean William L. Porter
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, Massachusetts 02139

Objectives: To integrate work and academic settings on the belief that education for public service should be reflective of the real world situation.

To take advantage of the dynamics of change in professional practice in order to link field work with academic study.

Description: The basic element in a field-linked education is the placement of students in job situations that provide the greatest opportunity to maximize exposure to significant issues in planning. Because of the nature of planning and the diversity of student interests, placements have been made in a wide variety of substantive areas, including:

Housing, Research, Finance, and Development
Telecommunications
Corrections
Manpower and Economic Development
Model Cities
Legislative Affairs
Higher Education Planning
State Department of Education
Neighborhood Health Planning

Each intern receives supervision from both the agency and the department. Monitoring and evaluation are continuous.

The program seminar, "Planned Change and Implementation," is offered on a weekly basis. The purpose of the seminar is to synthesize practice and theory and bridge field and academic experiences. In the seminar, the interns should consciously reflect on planning practice in order to generate their own theory of planning and implementing change.

Additional Information:

All of the interns are Master's degree candidates and members of minority groups. They come from all over the United States and from a variety of experiences and academic backgrounds. There is no sepearate application process for the Intern Program. Interns are selected from interested Master's degree minority students already admitted to the department. The HUD grant pays the interns' tuition and provides a stipend of up to $4,600 per year.

7/ Business

> Few trends could so thoroughly undermine the very foundations of our free society as the acceptance by corporate officials of a social responsibility other than to make as much money for their stockholders as possible.[1]

As in other Group II professions, the issue in business, while being no simpler in ultimate solution than in Group I professions, is at least more easily defined: how to cope with the predominant value within business, which is, as Milton Friedman so ably put it, to disregard all demands save that of the stockholders for a profit.

Robert Friedman takes essentially the same position in saying that, while society is responsible for moral action, business is supposed to create wealth. The philosophical justification is that "if goods are good then business is moral in producing them."[2] Society effects its controls by the process of selecting or choosing among goods, consumers arbitrate for society by indicating their preferences for goods, purchasing those goods that are of greatest value to society and rejecting all others.

Unfortunately, society's choices may often be overridden by other forces such as the power of advertising and the effects of various market imperfections. Counter to the Friedman argument, the view is that the marketplace does not effectively arbitrate because consumers are often ill-informed and rarely, if ever, act as a unit. Further, the consequences of business extend far beyond the goods and services they produce. There are, for example, social effects upon the people employed by a business organization and upon the people who reside in a community housing an industry or a group of industries. The essential point is that business is in itself a social system.[3]

[1]Milton Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1963), p. 133.

[2]Robert Friedman, "The Challenge of Business Ethics," *Atlanta Economic Review*, May 1962, p. 2.

[3]Olvar O. Elberling, Jr., "The Value Issue of Business: The Responsibility of the Businessman," *Academy of Management Journal* 13 (March 1970): 78-89.

The arguments are clearly stated, but is the discussion merely academic? Will the public, through its elected representatives, utilizing the police powers of the state, permit business to act as other than a social system? Will professional schools of business have time to act? Will business professionals demonstrate a sense of social responsibility? One way or the other, free enterprise evidently is to become ecology-conscious, conscious of the pollution it spews into the water and air and onto the land.

EXEMPLARY PROGRAMS

Teaching and social work, two of the Group I professions, provide a reference point for viewing the exemplary business schools. There is a distinct difference between the programs identified in schools of business and those in teaching and social work. Although the outcomes of business school programs cannot possibly be predicted, it seems that if the goals of these exemplary programs were realized, the programs might make a difference. The statements of goals or objectives for these programs, in contrast to those in education and social work, leave no doubt that these programs are aiming at the right things. These goals are the same issues identified in the literature and by the social critics as represented in the press: how to make business professionals "socially conscious." Four of the six programs speak directly to this point, while the other two have related objectives.

The Center for Research and Dialogue on Business in Society at the Graduate School of Management of the University of California at Los Angeles attempts to infuse new values into business students and into practicing managers. Stanford University's Urban Management Program is a focused effort to prepare urban decision makers who will be capable of responding to the changing complexities of urban society. Their course work is tailored explicitly to this purpose. Urban matters are a target of another UCLA program, which involves a resource study center for the solution to urban problems. New York University's "Seminar in Social and Philosophical Issues in Management" also seeks to alter business values.

It could be said that all four of these programs seek to alter the service modes of business professionals through attacking some of the *values* of the profession. If the values change, the ways in which business professionals serve their ultimate clients well may be affected.

The final two programs, those at the Montana State University and the Indiana University, have varied purposes. The Montana State University program, under a grant from the Kellogg Foundation, seeks to enhance the quality of public leadership at the local, state, national, and international levels. The Consortium for Graduate

Study in Management, housed at six universities, recruits highly motivated and qualified minorities into vigorous M.B.A. programs in order to facilitate the entry of well-trained minorities into management positions.

Title:	Center for Research and Dialogue on Business in Society
Location:	University of California
Sponsor:	Graduate School of Management
Funding:	$70,000 per year
Size:	4 research assistants 21 faculty
Contact Personnel:	George A. Steiner, Director Center for Research and Dialogue on Business in Society Graduate School of Management University of California Los Angeles, California 90024
Objective:	To stimulate intellectual interest about important issues in the broad business/society interrelationship in the Graduate School of Management, in the university, and in the community.
Description:	In addition to research on fundamental issues in the relationship of business to society, there are two major concerns of this center. One is curriculum. At the present time there is but one course devoted entirely to this area, namely BA 424, Business and Society. The center wishes to assure that UCLA has the best possible program appropriate to its facilities, faculty capabilities and interests, and the educational requirements of students and practicing managers. The center also serves as a focal point for developing dialogue among businessmen, faculty, and students, both in and out of the Graduate School of Management on the fundamental issues in the business/society relationship. The center organizes and conducts a number of dialogues illuminating the issues and contributing facts, insights, and philosophies that may be important in developing clearer understandings. The dialogues contribute to and result from the research interests of faculty and students. The dialogue responsibility is assumed by the center because of its importance for better understanding, which is vitally needed in this area. The following is a selected sample of issues under examination: Specifically, what are the social responsibilities of business? What guidelines of an operational nature can be established for business and government in dealing with pollution, mass transportation, urban renewal, and employment of the underprivileged and underskilled?

How are corporate tasks and structures changing in response to social pressures?

What is industry doing to enrich jobs both at the managerial and at the blue-collar levels?

How has business performance in the United States compared with that in other major industrialized nations of the world with respect to such matters as per capita income growth, quality of life, and job enrichment?

What are the major conflicts between United States-based companies and the interests of countries in which they do business?

What incentives should government provide for business to help solve major social problems?

How are social values changing and how are they likely to change business activity and structure?

The solutions finally chosen for many of these issues will have the profoundest impacts on the future of business and society. The existing creditable research in this broad area is but a fraction of that which is required by the urgency of the problems. The center will seek to partially close this gap.

Title:	Urban Management Program
Location:	Stanford University
Sponsors:	Sloan Foundation Ford Foundation Richard King Mellon Foundation
Funding:	$1,250,000 total
Size:	25 students admitted per year 25 faculty
Contact Personnel:	Henry S. Rowen, Director Urban Management Program Graduate School of Business Stanford University Stanford, California 94305
Objective:	To train students to approach extremely complex problems, to structure the available information, to make decisions, and to design and implement policies in a changing environment.
Description:	The basic premise of the Urban Management Program is that decision making and implementation activity are the key to public as well as private management. The emphasis of the coursework leading to the Master of Business Administration degree is on the process of management decision making. The Urban Management Program utilizes the basic decision process courses of the M.B.A. program and intro-

duces additional material which is designed to provide substantive knowledge in the public sector and to explore the important additional dimension of political influence on public choice and policy implementation. The content of these new dimensions ranges from computer analysis of alternate modes of program delivery in federal agencies to development of new organizational structures and decision-making systems for community-based operations in minority neighborhoods.

The Urban Management Program curriculum includes:

The First Year:

Urban Political Process
Economic Analysis
Organizational Behavior
Quantitative Analysis
Structuring Decisions for the Urban Manager
Marketing and Communications
Finance and Accounting
Computer Technology and Information Systems

The Internship:

During the summer between the first and second year the student works in an urban government or other appropriate agency. Placement is arranged by the student, faculty, and staff.

The Second Year:

Three-term Faculty/Student Urban Action Workshop
Business Policy
Business and the Changing Environment
Electives in urban management and topical areas of the student's choosing

The educational experience at the Graduate School of Business also draws on the instructional and scholarly resources of the rest of the university in the public sector area.

Title:	Urban Resources Study Center
Location:	University of California
Sponsor:	Graduate School of Management
Funding:	$50,000-$70,000 per year
Size:	30 students 8-15 research assistants 30 faculty 4-8 faculty/researchers
Contact Personnel:	Fred E. Case, Professor Graduate School of Management University of California Los Angeles, California 90024

Objectives:	To use basic research in the effective application of all kinds of resources to solve urban problems. To focus research activities on such challenging problems as urban growth and structure, alternative urban growth potentials, urban decay and renewal, population concentrations, provision for low-cost housing, environmental degradation, real estate construction, and marketing forecasting.
Description:	The Urban Resources Study Center does not have a degree program — rather, it functions as a resource for management students. In the area of career development, the center: Encourages and assists students in conceptualizing and implementing urban research projects. Provides research inputs to programs intended to provide career enrichment and enhancement for special and degree students. Develops opportunities for students to participate as interns in private and public organizations and agencies working on solutions to urban problems. The Urban Resources Study Center is meta-disciplinary in character, utilizing a variety of study and research formats which draw together UCLA faculty and students with individuals and organizations from outside UCLA who are interested in finding business/management-oriented solutions to urban problems. The activities of the study center include publication of research findings; supporting seminars, conferences and public meetings for the purpose of reporting on research activities and findings; and identifying research potentials for URSC. Faculty and students associated with the study center will be offered opportunities individually and jointly to consult with and advise private businesses, government agencies, and others in research activities which fit the objectives of the Urban Resources Study Center. URSC provides employment for many students as research assistants and assistance to students undertaking research related to the center's interests.
Title:	A course entitled "Seminar in Social and Philosophical Issues in Management"
Location:	New York University
Sponsor:	New York University
Funding:	No separate funds
Size:	15 graduate students per term 1 Faculty member

BEST COPY AVAILABLE

Contact Personnel:	Dr. Alex W. Rathe, Professor Graduate School of Business Administration New York University 100 Trinity Place New York, New York 10006
Objective:	To improve managerial practice by sharper identification of the nature and scope of managerial responsibilities and their conceptual foundations.
Description:	Issues for discussion involve management's responsibilities to: (1) the organization. (2) the individual with whom the organization comes in contact. (3) owners. (4) employees (including managers). (5) employee unions. (6) customers. (7) vendors and suppliers. (8) dealers. (9) competitors. (10) government. (11) the locality in which the organization operates. (12) the nation. (13) the world.

Title:	Kellogg-Extension Education Project Report
Location:	Montana State University
Sponsors:	The Kellogg Foundation Title I, Higher Education Act
Funding:	$596,373 from the Kellogg Foundation
Size:	30 Study I travel fellows (19 men; 11 women) 158 Group communications workshops participants (97 men; 61 women)
Contact Personnel:	Dr. M. E. Quenemoen, Director Kellogg-Extension Education Project 311 Linfield Hall Montana State University Bozeman, Montana 59715
Objectives:	To increase the effectiveness of Montana's leaders and potential leaders in local, state, national, and international decision-making and problem-solving processes. To build an understanding of the economic, social, and political framework of our society. To provide an opportunity to use this knowledge to define and analyze important complex social problems. To encourage participants to work actively with people to bring about improvement in the quality of living.

To focus attention on the role that man-created institutions play in permitting society to adjust itself to change.

Description: The educational project is directed primarily toward men and women from twenty-five to forty years of age who are already successfully established in homemaking, farming, business, a profession, or other vocation.

The project consists of two major thrusts.

I. A Three-Year Study-Travel Fellowship is awarded to ninety individuals (in three groups of thirty over a five-year period) selected for high leadership potential. The fellows travel as a group for first-hand observation within the state during the first year, to selected locations in the nation during the second year, and to other countries in the third year. In addition, they spend three weeks on the university campus each year.

II. One-week group communications workshops with approximately thirty participants are offered each year during the five-year period. Six workshops were held during the first year. Persons participating in any one year are invited for a follow-up the next year. Approximately five workshops for new people will be held each year during the five-year period. Additional workshops, as necessary, will be held for those wishing to return for an advanced workshop.

Title: Consortium for Graduate Study in Management

Location: Indiana University
University of Rochester
University of Southern California
Washington University, St. Louis
University of Wisconsin
University of North Carolina, Chapel Hill

Sponsor: Information not available

Funding: Information not available

Size: 70 students admitted per year

Contact Personnel: Dr. Sterling Schoen, Director
Consortium for Graduate Study in Management
101 N. Skinker Boulevard, Box 1132
St. Louis, Missouri 63130

Objective: To recruit highly motivated and qualified minorities into vigorous M.B.A. programs in order to hasten the entry of well-trained minorities into management positions.

Description: Each person who qualifies for admission to the program receives a fellowship to pursue his M.B.A. studies at one of the six Consortium universities. The fellowship provides free full tuition at the university which the student attends, plus a stipend of

$2,000 for the first year and $1,000 for the second year, providing the student maintains the standards set forth by the graduate school of business in which he is enrolled. Loans are available to meet additional established need for each of the two years. At the time the fellowship awards are made, each applicant who has applied for financial aid will be informed of the amount of the aid awarded for the first year. Students seeking financial aid for the second year must apply at the end of the first year of study.

Each student undertakes the regular Master of Business Administration curriculum at one of the six graduate schools of business or management. These curricula aim to develop the analytical, problem-solving, and decision-making abilities so necessary to the success of the professional manager in the dynamic business organization. These abilities equip the student to solve the difficult and critical problems associated with change, choice, and complexity, both in his professional career and in his community involvement. These M.B.A. programs include study of the basic disciplines — accounting, finance, marketing, organizational behavior, production, quantitative business analysis, and research. These programs also provide limited concentration in one or more areas of special interest.

Additional Information

Fellowships are awarded to the following minorities: Blacks, Chicanos, Puerto Ricans, Cubans, and American Indians. Applicants must be U.S. citizens.

8/ Engineering

> Science and engineering at this period in time can produce almost any given technological advancement or force nearly any change . . . However, rational control is impossible without the universities and education taking new responsibilities in the service of society.[1]

The need for engineers and technologists to solve our current (and future) social problems is almost without bounds. Since the values engineers hold unquestionably affect such matters as water and air pollution, highway safety and esthetic and social considerations of highway construction, and the rising amounts of carbon dioxide in the atmosphere, to name only a few, we need engineering programs which inculcate the necessary values. One program, that attempts to develop in its students a sensitivity to the changing needs of society, is the Worcester Polytechnic Institute Plan (WPI Plan). By employing an educational concept that makes use of self-paced learning, off-campus experiences, and the solutions of real problems involving environmental change, the WPI Plan may be better able to accomplish its goals of educating "technological humanists" who understand and appreciate the interrelationship between technology and society.

Of more personal concern to engineers, but to the larger society as well, are issues related to cyclical engineering unemployment. The shortcomings in the education engineers receive obviously is related to the obsoleteness of knowledge and to the lack of transfer of knowledge within the engineering profession. Employers apparently see little commonality between aeronautical engineering and mechanical or civil engineering, or between defense-related engineering and any number of other specialties. The solution to the engineering unemployment problem and what has become a "reverse brain-drain" by which our society now loses hundreds of engineers annually, is clearly not to be found in some simplistic curricular change such as the

[1]Marshall, Robert W., Jr., "Social Directions for Technology" (Washington, D.C.: National Academy of Engineering, June 1971).

(continuing) expansion of engineering programs from four to five years. With the rapid expansion of knowledge, especially in technical areas, a new form of education based upon principles and problem solving is mandatory.[2]

Somehow the engineer's training must "prepare him to anticipate the long-term consequences of his decisions."[3] Scientists and engineers need to be made more aware that their first responsibility as professionals is to the public and not to their employers. But also society must appreciate the often limited freedom within which the engineering professional works; better understanding is required on both parts. As in the case of several other professions, engineers and scientists often are constrained severely by the job specifications set down by their employers.

The 1968 Goals Report has already made recommendations in several of these areas. For example, the report foresees an increased social role for the engineering graduate. The recommendations for meeting these developing roles, however, await further development.

[2] Algo D. Henderson, "An Educator's View of the Goals Report," *Engineering Education* 58 (September 1968): 25-30.

[3] Allen B. Rosenstein, *A Study of a Profession and Professional Education* (Los Angeles: Reports Group, School of Engineering and Applied Science, UCLA, 1968).

The programs identified in engineering appear oriented to the preparation of professionals with an awareness of environmental problems and a commitment to their solution. There is a notable attempt to develop a responsiveness to human welfare among neophyte engineering professionals despite the fact that only one-quarter of the programs examined mention social responsibility in their statements of objectives.

An optimistic note in engineering, and one that arises from the very nature of environmental problems, is the interdisciplinary approach. This slant represents an acknowledgment at least on the part of three-quarters of the programs studied that a sharing of knowledge "among physical, biological, and social sciences" is a necessary step in the overall understanding of the effects of engineering projects as well as in the engineering solutions to environmental problems. A pooling of the efforts of the disciplines seems not only to underscore the vital interrelationship between technology and society, but may result also in a more pragmatic benefit to the profession — the increased marketability of the engineer. A certain degree of hybridization with other academic areas may well serve the dual function of creating better solutions to environmental problems and at the same time increasing the breadth and vigor — and thus the employability — of the professional engineer.

The new emphasis given general education in engineering and related technical fields also has characterized several new programs. One program provides the opportunity for middle management engineers to gain a liberal arts experience, and the alleged tunnel vision of the engineering curriculum of the past is in some cases giving way to such courses as "ethics and values," "population growth," and "economics and planning."

Engineering modes of service and delivery systems are likely to remain essentially static for some time. Though the mixing of engineering with other disciplines and with other value orientations as noted here portends the possibility for greater commitment to society through new professional engineering roles, the pan-disciplinary approach appears to be something less than a panacea for the engineering ills of our society. Whether the problem be of a professional concern, such as the matter of increasing the marketability of new engineers, or whether it be of a societal concern, such as the necessity for early inculcation of values regarding the engineer's primary allegiance to either society or employer the sometimes bland statements of objectives (e.g., "to meet the need for trained personnel") that characterize most programs somehow indicate that there may be few

viable solutions on the horizon in engineering education. There is no disagreement about goals, but developing strategies that will genuinely focus the interests of several disciplines on social problems, that will broaden the perspectives of engineering students, and that will strive to place service to society at the forefront of their education purpose is the difficult issue.

Title:	Air Pollution Control Engineering Technology (APCET)
Location:	The Pennsylvania State University
Sponsor:	Office of Air Programs, Environmental Protection Agency
Funding:	Public Health Service Grant of $47,338 (Contract No. AP000-26)
Size:	24 students 1 faculty member
Contact Personnel:	Dr. William J. Moroz, Director Center for Air Environment Studies Room 226 Fenske Laboratory The Pennsylvania State University University Park, Pennsylvania 16802 or Mr. Nevin B. Greninger, Assistant Professor Berks Campus R.D. 5, Tulpehocken Road Reading, Pennsylvania 19608
Objective:	To prepare technicians to investigate air pollution problems, evaluate gas cleaning equipment performance, assist in the design of control systems, and operate and maintain instruments used in air sampling and pollutant monitoring by government agencies, consulting engineering firms, and manufacturing companies.
Description:	Applicants shall have been graduated from an accredited secondary school and shall have completed at least fifteen Carnegie units of work in senior high school. All applicants must have completed at least three units of English and two units of mathematics. One of the mathematics units must be in algebra, and the other in any combination of advanced algebra, plane geometry, solid geometry, or trigonometry. Specific directions regarding admission procedures may be obtained from the Office of Student Affairs at any of the Commonwealth Campuses of Penn State or at the main campus at University Park. The first year of the two-year interdisciplinary program leading to the Associate Degree in Air Pollution Control Engineering Technology is offered at all of the Commonwealth Campuses except Allentown and Mont Alto. The sixth term, utilizing over $300,000 worth of instrumentation, has been offered only at the University Park campus.

The field and laboratory aspects of this "socially responsive" job often bring the air pollution technician into contact with persons from the government, company, and public sectors. Interdisciplinary technical training and education in communication skills thus prepare him to play a useful role in any program of air resource management.

Title:	Environmental Engineering Science
Location:	Keck Engineering Laboratories
Sponsors:	National Science Foundation National Institutes of Health National Institutes of Environmental Health Sciences Environmental Protection Agency Atomic Energy Commission California Air Resources Board Rockefeller Foundation Industry
Funding:	$1,000,000 + per year
Size:	30 graduate students 20 faculty
Contact Personnel:	Dr. Norman H. Brooks, Academic Officer Environmental Engineering Science, 138-78 California Institute of Technology Pasadena, California 91109
Objective:	To prepare students for careers of specialized research or advanced engineering and planning in various aspects of the environment.
Description:	By their nature, environmental problems cut across many diverse disciplines. The graduate program in Environmental Engineering Science attempts to emphasize the problem areas and to include work from whatever traditional disciplines are relevant. Close interaction among engineers, scientists, and social scientists is considered essential.

The academic disciplines of importance include the chemistry of natural waters and of the atmosphere; the physics and physical chemistry of disperse systems; biological fluid mechanics; biomedical transport processes; marine biology and ecology; fluid mechanics of the natural environment; hydrology; sedimentation and erosion; the theory and design of complex environmental control systems; combustion; environmental modeling and information systems; and environmental economics. Courses in these fields are offered in the environmental engineering science program and in other departments of the institute.

Although students are expected and encouraged to develop an awareness of the full range of environmental problems, the

program is not designed to train environmental generalists. The curriculum has been planned primarily for the student pursuing the Ph.D. degree, although the M.S. degree is also offered.

The majority of the faculty members in this interdisciplinary program are from the Division of Engineering and Applied Science. There is also participation from the Divisions of Chemistry and Chemical Engineering, Humanities and Social Sciences, Geological and Planetary Sciences, and Biology.

Title:	Environmental Science Program
Location:	Washington State University
Sponsors:	College of Agriculture College of Engineering College of Science
Funding:	$42,000 per year
Size:	82 undergraduate students 30 graduate students 80 faculty from sixteen departments
Contact Personnel:	Dr. Carl J. Goebel, Chairman Environmental Science Program Washington State University Pullman, Washington 99163
Objectives:	To train undergraduate and graduate students in environmental science. To teach environmental science to individuals whose basic training is in other but related disciplines. To encourage faculty research in environmental and related sciences.
Description:	The program in Environmental Science is concerned with the analysis of natural and modified environments (including man-induced changes) and their interactions with biological communities, including the human community. An underlying assumption of the program is that an interdisciplinary approach — the sharing of knowledge and methods from most of the physical, biological, and social sciences — is essential in order to come to terms with the complex and difficult problems associated with environmental relationships. The course of study leads to the B.S. and M.S. degrees. The broadly based required curriculum for undergraduate majors in Environmental Science consists of a diversity of courses in anthropology, sociology, botany, chemistry, mathematics, computer science, and statistics, among others. During their junior and senior years, students participate in environmental science seminars and lectures conducted each semester by professors from various academic disciplines.

Areas of study include:

Agricultural ecology, which considers the study of man's quest for food through agriculture: how man must alter his environment to satisfy ever increasing demands for food; how these alterations have affected environmental balances and ultimately all life; and how best to adjust agricultural uses of the environment to maintain its health and vigor.

Biological science, which studies the basic biological consequences of man's activities and natural changes.

Physical science, which concentrates on the effects of man-induced chemical and physical changes in the environment. Of central concern are such questions as the long-term consequences of thermal pollution from nuclear reactors, and the creation of means to measure elements necessary to life in air and soils.

Cultural ecology, which studies the relationships of man's social, cultural, and behavioral patterns to the environment. This option includes demography — why and where men move, the growth of population, and the advantages and disadvantages of crowding; values and environmental perception; the economics of resource supply and demand; environmental design and spatial arrangement; and the critical question of how to change established cultural patterns to improve the environment and, thus, the quality of life for man.

Environmental health, which centers on problems of waste disposal: to understand the effects on the environment of human waste, industrial waste, and air pollution, and to devise technologically and economically feasible ways of breaking down or eliminating waste so that it is not dangerous to human health.

Natural resources, an option concerned with the optimal utilization of both nonrenewable resources, such as petroleum and coal, and renewable resources, such as forests and wildlife. Another important concern is finding ways to meet man's recreational and aesthetic needs.

Title:	WPI (Worcester Polytechnic Institute) Plan
Location:	Worcester Polytechnic Institute
Sponsor:	Worcester Polytechnic Institute
Funding:	Information not available
Size:	Variable
Contact Personnel:	Mr. Romeo L. Moruzzi, Dean of Faculty Worcester Polytechnic Institute Worcester, Massachusetts 01609
Objectives:	To educate technological humanists who understand and appreciate the interrelationships between technology and society.

To teach students to cope with environmental changes by analyzing and handling problems in a realistic and feasible manner.

To increase each student's sensitivity to people in personal interactions.

Description:

Worcester Polytechnic Institute is now in its second year of implementing a new and comprehensive educational concept. Replacing the century-old fixed-sequence, fixed-time-span program, the WPI Plan is project oriented, incorporates self-paced learning techniques, and balances classroom instruction with off-campus experiences in handling real-life problems. Degrees are awarded on the basis of demonstrated competence rather than the accumulation of specified course credits, so graduation is possible in less than the traditional four years. The calendar, with five seven-week terms, provides five entrance and graduation dates per year and unusual flexibility for acceleration, employment, or internship experiences. Each student's program is self-designed with the aid of his advisor, and is unique in its content.

There are no required courses.

Degree requirements include:

The completion of 12 *units** of work.

Acceptable or distinguished completion of a comprehensive evaluation in the major field.

Qualification in a minor field of study either by sufficiency examination or by overall evaluation of two units of work in the area. Students majoring in a science or engineering field who would normally meet this requirement in a humanities or social science field will fulfill it in an area of their major.

At least two units of acceptable or distinguished work at an advanced level, involving independent study or project-oriented tutorial work. One of these units has to be in the student's major field; an activity relating technology to society is recommended for the second.

Each January, WPI holds a three-week series of concentrated seminars called Inter-session. There are about 150 topics of study ranging across all departments. Each topic is studied for one week.

*A *unit* is equivalent to about 50 hours work per week for a seven-week term. Most courses will have a credit value of 1/3 unit per term.

Titles:	Undergraduate Option in Environmental Studies Graduate Program in Environmental Engineering
Location:	Louisiana State University
Sponsors:	Louisiana State University Supplementary funds from granting agencies
Funding:	No fixed amount as yet
Size:	Information not available
Contact Personnel:	Professor Joseph D. Martinez, Director Institute for Environmental Studies Louisiana State University Baton Rouge, Louisiana 70803
Objectives:	To make everyone who is responsible for the conception, design, and execution of major engineering projects aware of all factors which have an adverse effect on the land, sea, and air. To train engineers to cope with environmental problems of the present or the future by using all available engineering knowledge and skills.
Description:	The undergraduate program at the Institute for Environmental Studies offers environmentally oriented courses that are interdisciplinary in nature. Course topics include environmental conservation, economic aspects of environmental quality control, the design of environmental management systems, and the principles of ecology. The program has generated interest in graduate studies in this field, and several students have specialized in engineering within the framework of the traditional engineering disciplines. The graduate program in Environmental Engineering is interdisciplinary with two options which satisfy the requirements for obtaining the Master's degree in Environmental Engineering. Under one option, the degree will be awarded upon satisfactory completion of thirty-six hours from a list of course offerings that includes topics such as microbiology, unit processes in pollution control, advanced sanitary engineering, meteorology, operations research, geological engineering, urban design and planning, air pollution, and others. Everyone takes fifteen hours of required core courses. The student can select the remainder to match his particular interests. This option should attract students who are interested in becoming generalists with the goal of developing into environmental managers. Under the other option, the degree will be awarded upon satisfactory completion of thirty semester hours, including a thesis for which up to six hours' credit may be given. There will also be fifteen hours of required core courses. According to present planning, this option will be initially available to the student interested in specializing in water quality. Options in air quality and solid wastes will be developed later.

In order to enroll in either of these programs, a student must have a B.S. degree either in engineering or in a closely related scientific discipline. It is expected that applicants from fields other than engineering will have backgrounds generally equivalent to graduate engineers or will acquire essential engineering concepts while pursuing the environmental program.

Title:	Education and Experience in Engineering (E^3)
Location:	Illinois Institute of Technology
Sponsors:	National Science Foundation (Grant #GY9300) Illinois Institute of Technology
Funding:	$1,000,000 total (approximate)
Size:	120 students 20 part-time faculty
Contact Personnel:	Dr. T. Paul Torda, Program Director Education and Experience in Engineering Illinois Institute of Technology 10 West 32nd Street Chicago, Illinois 60616
Objectives:	To educate engineers to a high level of interdisciplinary competence so that they may solve problems within technological, socioeconomic, legal, and other constraints. To motivate students to obtain this high level of competence.
Description:	Problem-solving activities form the basis for the E^3 program from entrance through graduation. The problem-solving effort is carried out by small groups consisting of undergraduate students at all four levels and graduate students, when appropriate. Supervision and guidance are supplied by faculty members from the various academic fields involved in each problem. This method, used throughout the program, is designed to develop creative attitudes and to increase and integrate knowledge. The problems posed are broad in scope so that knowledge from many disciplines must be used in their solution. Project work is supplemented by lectures, seminars, and directed individual study. The lectures are given by experienced and competent people in all fields (technology, natural sciences, humanities, and the social sciences). Group discussions, as well as seminar presentations, are vital elements of the program at several stages of the problem-solving approach. An intensive program in the communication skills (oral, written, and graphic) is part of the education of the E^3 student. The basic content of an engineering education is contained in guided self-study material called "learning modules." These are undertaken by each student as he needs them to solve problems. Modules may also contain laboratory experiments, programmed instruction, or audio-tutorial materials as available

and appropriate. Mastery, rather than grades, is the evaluation technique applied to modular learning.

A well-instrumented and flexibly arranged laboratory workshop facility allows students to verify basic principles experimentally and test models of their design.

The social sciences and humanities play an important role in developing professional responsibility and competence, since they add significant dimension to skills and methods of inquiry and enable the student to acquire broader skills in organizing data, raising questions, and perceiving problems and their possible solutions. Also, in order to warrant the term "professional," this program endeavors to enhance the technical knowledge provided to the student with a sense of social impact, a consciousness of power and its consequences, and an awareness of the self as a professional force.

Title:	B.S. in Environmental Studies
Location:	Utah State University
Sponsor:	College of Natural Resources
Funding:	No additional funding
Size:	75- 90 students for the first year 135-187 by the fifth year of operation
Contact Personnel:	John D. Hunt, Assistant Dean Utah State University College of Natural Resources Logan, Utah 84321
Objectives:	To provide students with the general background needed to broaden them as professional specialists. To meet the wishes of the liberal education student who seeks no professional specialty in his education.
Description:*	The general curriculum is made up of a thirty-three-credit, interdisciplinary core of upper-division courses which constitutes the major, and ten credits each from four blocks of related humanities, social-science, natural-science, and applied-science courses. The major is based on the premise that an understanding of environmental problems and their solutions depends on a knowledge of the following:

*This information was abstracted from proposals for the Environmental Studies program planned to begin in September 1972.

BEST COPY AVAILABLE

Principles of environmental sciences, especially ecology.

Technical or applied environmental problems, especially natural resource availability and management, and waste problems (e.g., pollution).

Population growth, distribution, and attendant social problems, especially urban.

Economics and planning: The economic approach to analyzing alternatives, decision making, and design principles.

Ethics and values: Environmental problems are linked to human values, their solution will have to be ethically based.

Principles of the political process through which solutions must be made in the democratic system.

In addition to the core courses, forty credits are required in supporting fields, to be selected from specified environmentally related courses, or from other related courses approved by the advisor.

Titles:	Undergraduate Program in Environmental Management Graduate Program in Civil and Environmental Engineering
Location:	University of California
Sponsor:	University of California
Funding:	Information not available
Size:	50 undergraduate students 20 graduate students
Contact Personnel:	Jan Scherfig, Chairman Environmental and Resources Engineering University of California Irvine, California 92664
Objectives:	To permit students to acquire a firm background in the engineering, biological, and social sciences. To offer students an opportunity to specialize in a particular field of interest.
Description:	The undergraduate program in Environmental Management provides a comprehensive foundation in physics, chemistry, social science, mathematics, and biology. In the foundation courses, students learn the use of scientific tools for engineering analysis and synthesis of environmental system components. Through elective courses the student learns how fundamental principles can be brought to bear on environmental problems such as air pollution, water pollution, and environmental degradation. It has become increasingly clear in recent years that these problems must be considered from many points of view. A student who has a fundamental knowledge of engineering and the biological and social sciences will have a greater understanding of the interdisciplinary aspects of environmental

problems and, ultimately, will be in a better position to deal with them.

Upon completion of the program in Environmental Management, the student will be expected to do graduate work related to environmental problems. At UCI there are graduate programs in Civil and Environmental Engineering, Population and Environmental Biology, and Social Science.

The program in Civil and Environmental Engineering emphasizes the application of engineering principles and practice to the environment in order to protect and improve society and human health. The program includes the control and optimum utilization of water, air, land, and ocean resources, and the planning of urban systems.

The graduate program in Civil and Environmental Engineering is focused presently on the general area of water quality and resources engineering with specialization in water treatment, water resources system analysis, fluid mechanics, and hydrology. Air resources and transportation are being added.

Title:	Environmental Program
Location:	The University of Vermont
Sponsors:	Federal Government University of Vermont
Funding:	$350,000 for 1974
Size:	120 undergraduate students currently enrolled 60 undergraduate students to enter in fall 1973 3 full-time faculty 20 part-time faculty
Contact Personnel:	Dr. Carl H. Reidel, Director Environmental Program The University of Vermont Clement House, 194 South Prospect Street Burlington, Vermont 05401
Objectives:	To develop, prescribe, and participate in remedial action to control and reverse environmental deterioration. To expand knowledge of natural and human systems; to discover, analyze, and explain what happens in the world and why. To find solutions for problems currently facing society, particularly in the State of Vermont and its communities.
Description:	The Environmental Program includes faculty seminars, workshops, conferences, and new curricula and courses designed through the task force mechanism. Phase I (1971-73) is developing a curriculum consisting of a broad undergraduate core of courses surveying specific areas of environmental concern.

Phase II (1973-75) will develop specifically directed courses for advanced undergraduates. An undergraduate degree program in general environmental studies, offering considerable flexibility in course selection, has been approved by the faculties of all four undergraduate colleges (Agriculture, Arts and Sciences, Technology, and Education). Three major options are now available: (1) Coordinate Major; a traditional disciplinary major with a core environmental studies program, (2) Major; a self-designed, interdisciplinary program, and (3) Environmental Education; a certification program in elementary or secondary environmental education.

Phase III (1974-76) will take the program to the graduate level with the expectation that the presently discernible trend toward less highly specialized graduate work will continue, and that advanced degree requirements will become sufficiently flexible to permit the student to create his own multidisciplinary curriculum. A mid-career Master's degree program for working professionals is also anticipated.

The Environmental Program draws broadly on university strengths in the natural sciences, the social sciences, and the humanities. It is centered on understanding and changing man's harmful social and economic behavior, and seeks to make fundamental changes in the values and forces underlying man's attitudes and motivations. The objective is to create patterns of human conduct consistent with survival of the species.

The university recognizes a basic obligation to educate students to be deeply aware of ecological imperatives, and to prepare them to live and work in a manner compatible with human survival.

Title:	Mid-Career Graduate Program in Environmental Studies (Proposed)
Location:	University of Vermont
Sponsors:	University of Vermont
Funding:	Information not available
Size:	15-20 students per year Resident faculty and consultants
Contact Personnel:	Carl H. Reidel, Director The Environmental Program University of Vermont 153 South Prospect Street Burlington, Vermont 05401
Objective:	To provide middle management professionals with a broad liberal arts experience in an environmental context, focused on the crucial problems they will face as executives in natural resources management agencies.

Description:	A Master's degree will be awarded upon successful completion of the program, although nondegree programs may also be arranged for individuals who desire a limited program. Degree candidates must complete a minimum of prescribed credits including participation in specified seminars. Final examinations and a thesis will not be required, although reports prepared in conjunction with the special seminars may constitute comprehensive examinations in the program. Participants in the Mid-Career Graduate Program in Environmental Studies will be chosen from applicants who have been sponsored by natural resource agencies of the federal and state governments and who have completed at least three years of field experience in an administrative capacity. Applicants must hold a bachelor's degree in a related natural resource field, and normally have had a "B" average in undergraduate work. Final selection will be determined by a university committee with authority to waive specific entrance requirements for individuals who have demonstrated a capacity for graduate study in some other way. The program will normally be completed in one academic year of full-time study. This specific time limitation is vital to gaining the support of public agencies, as participants will usually have to complete all degree requirements in a nine- to ten-month period in order to obtain leave and financial support for their studies. While half-time study over a two-year period would be allowed in special cases for employees of state agencies, it will normally be discouraged in favor of full-time study for one academic year. Funding and staff will be determined during the 1973-74 academic year. The program will probably be initiated in the fall of 1974.
Title:	Environmental Sanitarian Assistant (A.A.S. Degree)
Location:	Ferris State College
Sponsor:	State of Michigan
Funding:	Information not available
Size:	144 students 5 faculty
Contact Personnel:	Dr. John R. Fleming, Head Department of Environmental Quality Programs Ferris State College Big Rapids, Michigan 49307
Objective:	To meet the need for trained personnel by training the "technician" in the sanitary science field.

Description: This program is designed for the student who likes science and its technical applications in the field of sanitary science, and also enjoys working with and for people. The two-year collegiate training course offers specialty courses in sanitary science and public health. During the first year, a prescribed curriculum is followed in general education, including courses in English and the biological and social sciences, as well as introductory courses in the health sciences. Specialty courses are given emphasis in the fourth quarter and are continued through the second year. The specialty courses include training in the major areas of Environmental Science:

- Water Supply and Pollution Control
- Food Inspection and Control
- Housing and Institutional Sanitation
- Vector Control Practices
- General Environmental Control Practices

Field training with a full-time health department is provided during the latter part of the second year.

Students seeking to qualify for the Associate in Applied Science degree in the Environmental Sanitarian Assistant program must complete the course requirements for a minimum of 100 quarter hours of credit.

Title: Major in Environmental Engineering

Location: The Pennsylvania State University

Sponsor: College of Engineering

Funding: Information not available

Size: 45 students

Contact Personnel: John B. Nesbitt, Chairman
Major in Environmental Engineering
114-116 Sackett Building
University Park, Pennsylvania 16802

Objective: To make available a sound engineering program at the undergraduate level for those students who wish to serve in the field of environmental improvement.

Description: The major in Environmental Engineering is designed to provide a sound engineering foundation supplemented by specialized training in the areas of air, water, solid waste, radiological protection, and noise. All students in the program will receive instruction in each of these areas and will then be given an opportunity to specialize in one of them by selecting an option for the last four terms. A general option is available for those students who wish to postpone specialization to a graduate level program. All options provide a sound basis for advanced education at the graduate level in all of the above fields, without requiring any additional undergraduate courses for specialization.

Additional information:

The program is interdisciplinary within the College of Engineering and the College of Earth and Mineral Sciences. It is administered by a committee consisting of faculty from both Colleges.

9/ Summary and Conclusions

FIT BETWEEN SOCIETAL DEMANDS AND PROGRAM OBJECTIVES

The utility of the paradigm presented in Chapter I for examining Group I professions is readily evident. The social demands or issues as identified in the paradigm are for the most part the same issues reflected in the objectives of Group I exemplary programs. Within Group I, the fit between societal demands and program objectives is the greatest in law and medicine; in social work and teaching program objectives are somewhat more traditional than the goals of the paradigm. In those professions where agreement as to issues is fullest — i.e., law and especially medicine — and more importantly, where the courses of action are clear, professional school responses are furthest advanced. But for those professions where widespread agreement about issues is lacking, or even more importantly, where remedies are uncertain, the issues of the paradigm and the objectives of the exemplary programs are sometimes inconsistent.

Even in the health professions, where professional supply is held widely to be the major issue and where the course of action is clear, such agreement does not exist uniformly. For example, with the exception of dentistry, practically no attention is given among exemplary professional schools in the health professions to preventive measures. Perhaps the explanation is simply that funding agencies have given little priority to this area in comparison to the goals of increasing supplies and improving delivery systems; however, a more likely impedance is some combination of funding priorities and resistance within the health professions to deviating from the deeply embedded service mode of condition treatment.

Like examples exist in law. Although the adversary system often is viewed with hostility by the public, it is most certainly held by the legal profession to be the inviolable mode of service. It is doubtful that any law school would pay heed to public clamor for change in this regard either with or without funding stimuli. The adversary system is the very basis of our legal system. The contingency fee system, on the other hand, is less easily defended. This system is held generally to be responsible for the great burden upon our civil courts. Yet, in spite of statements to the contrary, the legal fraternity's defense of the contingency fee system appears to be primarily in the interest, not of the client, but of the client's agent — the attorney.

In social work, the dissonance between the issues of the paradigm and the objectives of exemplary programs is more severe. Schools of

social work seem little concerned about supplies of professionals. This may be partly because shortages are not severe, nor are the services provided by social workers considered particularly vital by the general public. Other issues and solutions in social work give rise to yet other differences of opinion. There is no disagreement that client independence should be fostered, but the means to this end in the instruction of neophyte professional social workers appears to defy solution. The proper stance of the case worker regarding the previously discussed issues of client advocacy remains uncertain. In short, the issues are not even always clear; and when they are, the solutions sometimes avoid identification.

In teaching there is only limited evidence of agreement with the presumed need to improve education efforts for the disadvantaged. However, it may be erroneous to assume here, as it is in other professions, that the limited number of programs devoted strictly to this objective represents accurately the attention devoted to the issue. There may well be, and probably are, many traditional programs that give attention to the special needs of the poor and culturally different. Apparently, less attention is being given to the mushrooming oversupplies of teachers; although in all fairness, if such attention were given, it might well escape the notice of those who seek to identify "exemplary" programs.

OBJECTIVES OF THE EXEMPLARY PROGRAMS

In brief summary of the objectives these exemplary programs *do* serve, all four professions are exerting considerable effort to serve the poor, the indigent, and the minority group populations. In law, four of the five programs listed specify provision of legal aid to needy persons. In the health professions there is a general effort to expand services to geographic areas where the poor reside. Three medical schools are specifically seeking to attract and retain minority group students. In social work, of course, the poor are almost exclusively the clients; in addition, several programs emphasize cross-cultural training and a better understanding of the total condition of the poor. Five programs in teaching appear also to focus on cross-cultural training, and at least one program attempts to recruit and educate students who will teach culturally different populations.

But the single most universal characteristic of these exemplary programs is immersion, by which neophyte professionals are given broad and in-depth experience with genuine clients. Perhaps this emphasis upon practice is most clearly shown in dentistry and teaching, although all Group I professions attach tremendous importance to the applied

phase of professional education. Among Group I professions, the focus is almost always upon the most needy clients; only in teaching does the focus of that experience appear to be almost inconsequential. However, as most any professional school faculty member knows, even when culturally different populations serve as the clients, the quality of the student's learning experience is the paramount concern of the professional school.

Of the Group I professions, the health professions bear further discussion. It should be noted that almost half of all exemplary programs identified were in the health professions, probably indicating how strenuous external stimuli — in this case funds — can precipitate major action on the part of professional schools. Where public demands are viewed by the profession as legitimate, e.g., increased physician supply and new medical delivery systems, the professional schools can be quite responsive. Special programs have been established to prepare rural and central-city physicians, family practitioners, and those who will staff community clinics. Further, a large number of physician's assistant programs have begun, many of which recruit previously trained medical corpsmen to become general physician's assistants and (to a lesser extent) assistants to specialists. The primary concern in nursing is also supply, but supply to support physicians, not to increase the number of traditional nurses. These new physician surrogates are largely generalists, although a few specialize, particularly in pediatrics.

The programs of the Group II professions vary markedly from those of Group I professions. Whereas the almost universal emphasis of the Group I professions is practical experience, the emphasis of all Group II programs is the infusion of values. Whereas in the Group I professions needy populations often serve as the subjects of that field experience, the needy are only occasionally referred to in the agriculture-related professions, in architecture, and in engineering. Only in business, where urban problems are a primary concern, is the *focus* upon the poor and the culturally different.

Almost every exemplary program in the Group II professions has as its primary objective the infusion of values into neophyte professionals. One will recall from Chapter I that successful professional school responses to the emerging demands of society would require instilling in professionals a sense of general social responsibility and consciousness. The Group II professions obviously have taken this proposition very seriously. Their program summaries reveal an assumption that professional values vis-à-vis society must be changed, although there is apparently little conclusive thought as to the manifest forms those attitudes might take. There is, for example, very little said

in these program summaries about how service modes and delivery systems ought to be altered. It is implied that service modes should reflect a "society as client" perspective, but the concrete actions to this end are not indicated.

A STRATEGY FOR INFUSION OF VALUES

A primary strategy for the infusion of values would seem to be exposure to general education and liberal arts courses in the social sciences and humanities. Yet Rosenstein, in a ten-year study of engineering curricula, observed that such courses are seldom taken very seriously by engineering students.[1] In a pilot study of two medical schools, two business schools, and an engineering school, the author of this monograph observed that professional school students who were heavily engaged in learning the technical facts and procedures of their profession assigned a very low priority to outside electives. Obviously some way must be found to elicit involvement of such students if values are to be infused through social sciences and humanities courses.

Rosenstein further noted that courses normally elected in the social sciences and humanities were taught more as first courses to the Ph.D. than as service courses having obvious implications for the professions. Thus, he recommended that elective courses, having the objective of value infusion, be taught in the respective professional schools.[2]

However, data from the pilot study of five professional schools indicate that this is an insufficient strategy. Faculty members extracted from the disciplines appear only rarely to be committed to the purposes of professional schools. Rather, their major identification is with their discipline and their reference group is the formal or informal membership of the discipline, not the membership of the profession in whose school they temporarily teach.

[1] Allen B. Rosenstein, *A Study of a Profession and Professional Education* (Los Angeles: Reports Groups, School of Engineering and Applied Sciences, University of California, 1968). He found that engineering students at UCLA selected their electives primarily on the basis of the distance of the elective classroom from the engineering building.

[2] Ibid.

Thus, for the satisfactory inculcation of values into neophyte professionals it may be necessary not only to house such courses in the professional schools, but to engage as the teachers of social sciences and humanities, professionals having a genuine concern for the profession and, if possible, professional experience in social agencies or on social projects. For example, such persons might be engineers with experience in environmental systems, teachers with experience in schools serving culturally different populations, and physicians who have practiced in the central cities. Further, the Group II professions might seriously consider following the course of the Group I professions in assigning their students to internships physically proximate to the social demands they are seeking to meet. If this were done, forestry students would be assigned duties in parks and recreation areas; architects would assist in the design of urban renewal projects; business students would see duty in consumer affairs offices; and engineers would be assigned to projects in pollution control and in environmental design.

Whether this strategy would be sufficient is a moot question. Phase II of this study would attempt to evaluate exemplary programs, identifying "successful" programs or, more likely, successful components. The elements and conditions of such programs or models would then be synthesized in Phase III of the construction of model programs. The framework for the evaluation would be the theory of change. That theory, in identifying the elements and conditions of change, would provide the focus of the evaluation stage, that is, the elements and conditions to be examined.

In closing, the opening statement of this handbook bears repeating: Social institutions arise and persist for the purpose of meeting individual and social needs. These social systems survive or persist to the extent they can remain relevant to the collectivities they serve.

If they fail in this regard, all else that they may accomplish will be of little consequence.

Additional References

Anastasi, Anne. *Fields of Applied Psychology*. New York: McGraw-Hill, 1964.

Anderson, G. Lester. "Professional Education: Present Status and Continuing Problems." *Education for the Professions*, NSSE 61st Yearbook, Part II, Chicago: University of Chicago Press, 1962.

Barber, Bernard. "Some Problems in the Sociology of the Professions." *Daedalus* 92 (Fall 1963): 674-81.

Barton, Allen H. *Studying the Effects of College*. New Haven: The Hazen Foundation, 1959.

Beck, Bernard and Becker, Howard S. "Modest Proposals for Graduate Programs in Sociology." *American Sociologist* 4 (August 1969): 227-34.

Becker, Howard S., *et. al. Boys in White: Student Culture in Medical School*. Chicago: The University of Chicago Press, 1961.

Becker, Howard S. "Some Problems of Professionalization." *Adult Education* 4 (Winter 1956): 101-05.

Becker, Howard S. "The Nature of a Profession." *Education for the Professions*, NSSE 61st Yearbook, Part II, Chicago: University of Chicago Press, 1962.

Becker, Howard S. and Carper, James W. "The Development of Identification with an Occupation." *American Journal of Sociology* 61 (1956): 289-99.

Becker, Howard S. and Carper, James W. "The Elements of Identification with an Occupation." *American Sociological Review* 22 (June 1956): 341-47.

Blackman, Ann. "Young Doctors More Idealistic than Ever." *Trenton Evening Times*, October 7, 1970, p. 18.

Bucker, R., *et. al.* "Differential Prior Socialization." *Social Forces* 48 (December 1969): 213-23.

Clark, Burton R. *The Open Door College*. New York: McGraw-Hill, 1960.

Dasco, Michael M. and Komheim, Beatrice G. "Feasibility Study on the Proposed Hunter College Institute of Health Sciences." *ERIC Documents* (ED 033647) Washington: ERIC Clearinghouse, 1970.

Davis, Fred, ed. *The Nursing Profession*. New York: John Wiley, 1966.

Erikson, Erik H. "The Dream Specimen of Psychoanalysis." *Journal of the American Psychiatric Association* 2 (1954): 5-56.

Friedman, M. B. "Personality Growth in the College Years." *College Board Review* 57 (Spring 1965).

Goode, W. J. "Community Within a Community: The Professions." *American Sociological Review* 22 (April 1957): 194-200.

Grosser, Charles. "Community Development Programs Serving the Urban Poor." *Social Work* 10 (July 1965): 15-21.

Henderson, Algo D. *The Innovative Spirit*. San Francisco: Jossey-Bass, 1970.

Hutchins, Robert M. *The Higher Learning in America*. New Haven, Conn.: Yale University Press, 1936.

Jacob, Philip. *Changing Values in College*. New York: Harper and Row, 1957.

Kelly, E. L. and Goldberg, L. R. "Correlates of Later Performance and Specializations in Psychology." *Psychology Monographs* 73 (1959).

Leslie, Larry L. and Anderson, G. Lester. "Misery *Has* Company." *The Journal of Teacher Education*, to be published.

Lortie, Dan C. "From Laymen to Lawmen: Law School, Careers, and Professional Socialization." *Harvard Educational Review* 22 (Fall 1959): 352-59.

MacIver, R. M. *Society a Textbook of Sociology*. New York: Farrar & Rinehart, 1937.

Manis, Jerome G. and Meltzer, Bernard N., eds. *Symbolic Interactions: A Reader in Social Psychology*. Boston: Allyn & Bacon, 1967.

Mead, George Herbert. *Mind, Self, and Society*. Chicago: University of Chicago Press, 1934.

Merton, R. K., *et. al. The Student Physician*. Cambridge, Mass: Harvard University Press, 1957.

Miller, Henry. "Value Dilemmas in Social Casework." *Social Work* 13 (January 1968): 27-33.

Newcombe, Theodore, M. *Personality and Social Change*. New York: Dryden Press, 1943.

Oleson, V. L. and Whittaker, E. W. *The Silent Dialogue: A Study in the Social Psychology of Professional Socialization*. San Francisco: Jossey-Bass, 1968.

Parsons, Talcott and Shils, Edward A., eds. *Toward A General Theory of Action*. Cambridge: Harvard University Press, 1951.

Parten, Mildred. *Surveys, Polls, and Samples*. New York: Harper & Brothers, 1950.

Pfuetze, Paul E. *The Social Self*. New York: Bookman Associates, 1954.

Piliavin, Irving. "Restructuring the Provision of Social Work." *Social Work* 13 (January 1968): 34-41.

Rosenstein, Allen B. *A Study of a Profession and Professional Education*. Los Angeles: Reports Group, School of Engineering and Applied Science, UCLA, 1968.

Schmertz, Mildred F. "Design for the 1970s: A New Professional Conscience." *Architectural Record* 148 (October 1970): 118-27.

"Shortages on Nurses — No Solution in Sight." *U.S. News and World Report*, November 30, 1970, pp. 37-38.

Simmel, Arnold. "Structure and Change of Some Role Perceptions in Nursing School." *ERIC Documents* (ED 027384) Washington: ERIC Clearinghouse, 1965.

Simpson, Ida Harper. "Patterns of Socialization into Professions." *Sociological Inquiry* 22 (Winter 1967): 47-54.

Strauss, Anselm, ed. *George Herbert Mead on Social Psychology*. Chicago: University of Chicago Press, 1964.

Strauss, Anselm. *Mirrors and Masks: The Search for Identity*. Glencoe, Illinois: The Free Press, 1959.

Terman, L. M. "Scientists and Non-Scientists in a Group of 800 Gifted Men." *Psychology Monographs* 68 (1954).

"The University and Environmental Education," *Environmental Education* 1 (Summer 1970): 116-18.

Trent, James W. "A New Look at Recruitment Policies." *College Board Review* 58 (Winter 1965): 7-11.

Turner, John B. "In Response to Change: Social Work at the Crossroad." *Social Work* 13 (July 1968): 7-15.

Veblen, Thorstein. *The Higher Learning in America*. New York: The Viking Press, 1935.

Vollmer, Howard M. and Mills, Donald L. *Professionalization*. Englewood Cliffs, New Jersey: Prentice-Hall, 1966.

Waller, W. *The Sociology of Teaching*. New York: Wiley, 1932.

Walther, Regis D., *et. al.* "The Shaping of Professional Subcultures: A Study of Student Groups from Five Professions." *ERIC Documents* (ED 038904) Washington: ERIC Clearinghouse, 1968.

"Where Will the Jobs Be in the Next 10 Years?" *U.S. News and World Report*, November 2, 1970, pp. 73-74.

Wright, Charles R., "Changes in the Occupational Commitment of Graduate Sociology Students: A Research Note." *Sociological Inquiry* 22 (Winter 1967): 55-62.

Notes on the Author

LARRY L. LESLIE holds a joint appointment at The Center for the Study of Higher Education and in the College of Education, where he is chairman and professor of higher education. Dr. Leslie earned an Ed.D. from the University of California at Berkeley. He has served as a consultant to the Office of Economic Opportunity, the Title III Office of the State of Wyoming, the Utah State Board of Education, the Committee for Economic Development, The National Association of Land-Grant Colleges and Universities, and the AFL-CIO.

SELECTED PUBLICATIONS AVAILABLE FROM THE CENTER FOR THE STUDY OF HIGHER EDUCATION

MONOGRAPHS

Insights into Higher Education: Selected Writings of CSHE, 1969-73, Vol. II, Community College and Postsecondary Occupational Education, Winter 1974.

Insights into Higher Education: Selected Writings of CSHE, 1969-73, Vol. I, Governance, Winter 1974.

Anatomy of a Collective Bargaining Election in Pennsylvania's State-Owned Colleges, G. Gregory Lozier and Kenneth P. Mortimer, February 1974.

Variability in Faculty Perception of the Legitimacy of Decision Making at Nine Pennsylvania Institutions, David W. Leslie, November 1973.

Human Services Occupations in the Two-Year College: A Handbook, Theodore E. Kiffer and Martha Burns, May 1972.

Institutional Self-Study at The Pennsylvania State University, Kenneth P. Mortimer and David W. Leslie (eds.), December 1971.

Productivity and the Academy: The Current Condition, William Toombs, May 1972, Report No. 16. (Out of print.)

Exceptional Graduate Admissions at The Pennsylvania State University, Manuel G. Gunne and Larry L. Leslie, March 1972, Report No. 15.

The Quality of Graduate Studies: Pennsylvania and Selected States, Stephen D. Millman and William Toombs, February 1972, Report No. 14.

Reports 1-13 out of print.

CONFERENCE REPORTS

The Fourth Annual Pennsylvania Conference on Postsecondary Occupational Education, Angelo C. Gillie, August 1973.

BIBLIOGRAPHIES

Selected Bibliography in Higher Education, September 1969, Revised April 1972.

OCCASIONAL PAPERS

Journals of Education for the Professions: A Preliminary Study, Ann Kieffer Bragg and G. Lester Anderson, May 1974.

Collective Bargaining in Pennsylvania: A Summary of Collective Bargaining Agreements, Ralph L. Bovers in collaboration with Robert E. Sweitzer, August 1973.

Community College Teacher Preparation Programs in the U.S.: A Bibliography with Introductory Notes, Naomi V. Ross, August 1972.

NUMBERED REPORTS

The Comm-Bacc Study: Postbaccalaureate Activities of Degree Recipients from Pennsylvania Institutions 1971-1972, William Toombs, August 1973, Report No. 23.

Students and Unions, Neil S. Bucklew, July 1973, Report No. 22.

Compensatory Education in Two-Year Colleges, James L. Morrison and Reynolds Ferrante, April 1973, Report No. 21.

Pennsylvania's "State-Owned" Institutions: Some Dimensions of Degree Output, William Toombs and Stephen D. Millman, February 1973, Report No. 20.

The Trend Toward Government Financing of Higher Education Through Students: Can the Market Model be Applied?, Larry L. Leslie, January 1973, Report No. 19. (Out of print.)

The Rationale for Various Plans for Funding American Higher Education, Larry L. Leslie, June 1972, Report No. 18.

Collective Bargaining: Implications for Governance, Kenneth P. Mortimer and G. Gregory Lozier, July 1972, Report No. 17.

U.Ed. 4-456